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(AT THE END OF THE VOLUME.)

IMPERIAL GAZETTEER

OF

INDIA.

VOLUME IV.

Hardwár.—Ancient historical town and place of pilgrimage in Saháranpur District, North-Western Provinces. Lat. 29° 57′ 30″ N., long. 78° 12′ 52″ E.; pop. (1872), 4800. Distant from Rúrki (Roorkee) 17 miles north-east; from Saháranpur 39 miles north-east. Situated on the right bank of the Ganges, at the foot of the Siwálik Hills, close by the gorge through which the river debouches upon the plains. On the opposite shore rises the hill of Chandi Pahár, whose summit is crowned by a temple, connected with those of Hardwár. The Ganges here divides into many shallow channels, intercepted by islands. The town is of great antiquity, and has borne many names. It was originally known as Kapila or Gupila, from the sage Kapila, who passed his life in religious austerities at the spot still pointed out as Kapilasthána. Hiouen Thsang, the Chinese Buddhist pilgrim, in the 7th century A.D., visited a city, which he calls Mo-yu-lo, and the remains of which still exist at Máyapur, a little to the south of the modern town. He describes the site as some 3½ miles in circumference, enclosing a dense population; and General Cunningham finds that the existing ruins strongly confirm his account. These ruins are thus described in the *Reports of the Archæological Survey*, vol. ii. p. 233:—'These traces extend from the bed of a torrent, which enters the Ganges near the modern temple of Sarovanáth, to the old fort of Rájá Ben, on the bank of the canal, a distance of 7500 feet. The breadth is irregular, but it could not have been more than 3000 feet at the south end, and at the north end, where the Siwálik hills approach the river, it must have been contracted to 1000 feet. These dimensions give a circuit of 19,000 feet, or rather more than 3½ miles. Within these limits there are the ruins of an old fort, 750 feet square, attributed

to Rájá Ben, and several lofty mounds covered with broken bricks, of which the largest and most conspicuous is immediately above the canal bridge. There are also three old temples dedicated to Náráyana-sila, to Máya Deví, and to Bhairava. The celebrated *ghát*, called the Pairi or "feet *ghát*," is altogether outside these limits, being upwards of 2000 feet to the north-east of the Sarovanáth temple. The antiquity of the place is undoubted, not only from the extensive foundations of large bricks which are everywhere visible, and the numerous fragments of ancient sculpture accumulated about the temples, but from the great variety of the old coins, similar to those of Sugh, which are found here every year. The temple of Náráyana-sila, or Náráyana-bali, is made of bricks, 9½ inches square and 2½ inches thick, and is plastered on the outside. Collected around it are numerous squared stones and broken sculptures. One of the stones has belonged to the deeply carved, cusped roof of an old temple. Amongst the broken sculptures, I was able to identify only one small figure of Buddha, the ascetic, surrounded by smaller figures of ascetic attendants. The temple of Máya Deví is built entirely of stone; and, from the remains of an inscription over the entrance doorway, I think it may be as old as the 10th or 11th century. The principal statue, which is called Máya Deví, is a three-headed and four-armed female in the act of killing a prostrate figure. In one of the hands I recognised the *chakra*, or discus; in another there was an object like a human head; and in a third hand the *trisúl*. This is certainly not the figure of Máya Deví, the mother of Buddha, nor is it exactly that of any goddess with which I am acquainted. It corresponds best with the figures of Durga; but if the name assigned to it is correct, the figure must be that of the Puránik Máya Deví, who, according to the Bhagavata, was the "energy of the supreme, and by her, whose name is Máya, the Lord made the universe." But the action of the figure is most decidedly opposed to this identification; and I am therefore inclined to assign the statue to Durgá, the consort of Siva, to whom Vishnu gave his discus, and Siva his trident. This attribution is the more probable as there is, close beside it, a squatted male figure with eight arms, which can only be Siva; and on the outside of the temple there is a Lingam, and a statue of the bull Nándi. There is also a fragment of a large female statue, which may possibly have been Máya Deví, but it was too imperfect for recognition. As there was nothing about the temple to give any clue to its identification, I can only conjecture that the original figure of Máya Deví must have been destroyed by the Muhammadans, and that the vacant temple was afterwards occupied by the votaries of Siva. Outside the modern temple of Sarovanáth, I found a statue of Buddha seated in abstraction under the Bodhi tree, and accompanied by two standing and two flying figures. On the pedestal there was a wheel, with a lion on each side

as supporters; and as the figure was apparently naked, I concluded that it represents Adí Buddha, the first of the twenty-four Jain Hierarchs.'

The name of Hardwár, or Hari-dwára, literally 'Vishnu's Gate,' seems to be of comparatively modern origin, as both Abu Ríhán and Rashid-ud-dín mention only Gangá-dwára, or the 'Ganges Gorge' (literally, gate). Its earlier names, Máyura, or Máyapur, connect it with Sivaite worship, rather than with any form of Vishnu. Abul Fazl, in the time of Akbar, speaks of Máya, vulgarly Harí-dwára on the Ganges, being sacred ground for 36 miles in length. In the next reign, Tom Coryat visited the place, and described it as 'Harí-dwára, the capital of Siva.' A dispute exists to this day between the followers of Siva and Vishnu, as to which of these deities gave birth to the Ganges. The *Vishnu Purána* is cited by both, as it ascribes the Ganges to Vishnu, and the Alaknanda, or eastern branch of the Ganges, to Siva. The Sivaites argue that the proper name is *Hara-dwára*, 'Siva's Gate;' the Vishnuvites maintain that it is *Hari-dwára*, 'Vishnu's Gate.' The truth is that it was a scene of sacred rites long before either Sivaism or Vishnuvism developed in their present forms. As the spot where the Ganges issues forth on its fertilizing career, Hardwár obtained the veneration of each of the great religions of India, and preserves the memorials alike of Buddhism, Sivaism, and Vishnuvism, and of rites perhaps earlier than any of them.

'The present town,' says the Government official account of Saháranpur District, 'and the ruined village of Máyapur, both lie on the right bank of the Ganges, at the southern base of the Siwálik range, through which, by a gorge or natural breach, the river enters the plains. On the left is the Chandi Pahár, on the top of which is a temple connected with those in Hardwár itself. The river occupies the whole gorge, the width of which at its narrowest point is about 1 mile. Owing to its proximity to the hills and the great declivity to its bed, the Ganges here divides into several channels, intercepted by large islands, many of which are placed beyond the reach of high-flood water. One of these channels commences about 2¼ miles above Hardwár, and flows by Hardwár, Máyapur, and Kankhal, rejoining the parent river a little below the last town. It is from a spot on this branch, between Máyapur and Kankhal, that the head waters of the great Ganges Canal are taken. Hardwár was visited in 1796 by Hardwicke, who calls it a small place situated at the base of the hills. Raper describes it in 1808 as very inconsiderable, "having only one street, about 15 feet in breadth and a furlong and a half in length. Most of the houses have the upper part of brick and the lower part of stone, which is of good quality." The street is now fully three-quarters of a mile long.'

Modern Ceremonies.—The great object of attraction at the present day

is the Hari-ke-charan or bathing *ghát*, with the adjoining temple of Gangádwára. The *charan*, or foot-mark of Vishnu, is imprinted on a stone let into the upper wall of the *ghát*, and forms an object of special reverence. Each pilgrim struggles to be the first to plunge into the pool, after the propitious moment has arrived, and stringent police regulations are required to prevent the crowd trampling one another to death, and drowning each other under the sacred water. In 1819, 430 persons, including some Sepoys on guard, lost their lives by crushing in this manner; after which accident, Government constructed the present enlarged *ghát* of sixty steps, 100 feet in width. The great assemblage of pilgrims takes place on the first day of the month of Baisákh, the commencement of the Hindu solar year (March–April), and the anniversary of the day upon which the Ganges first appeared upon earth.

Every twelfth year, the planet Jupiter being then in Aquarius, a feast of peculiar sanctity occurs, known as a *Kumbh-mela*, and is attended by an enormous concourse of people. The ordinary number of pilgrims at the annual fair amounts to 100,000, and at the *Kumbh-mela* to 300,000. The total was formerly given in much larger figures. Hardwicke, an eye-witness, estimated the pilgrims to the *Kumbh-mela* at 2½ millions. Raper, who was present at the following *Kumbh-mela* in 1808, placed them at over two millions. Unless these estimates were greatly above the truth, even for the whole shifting crowds which came and went throughout the festival, the popularity of the shrine has greatly decreased during the present century. Riots and bloody fights were of common occurrence amid the excited throng. In 1760, on the last day of bathing (10th April), the rival mobs of the Gosáin and Bairági sects had a long-continued battle, in which the almost incredible number of 18,000 are said to have perished. In 1795, the Síkh pilgrims slew 500 of the Gosáins. Tamerlane plundered and massacred a great concourse of pilgrims at Hardwár shortly after he had seized Delhi. From Hardwár, the pilgrims often proceed to visit the Sivaite shrine of Kedarnáth and the Vaishnav temple of Badrináth, in British Garhwál, worshipping on their way at the various *prayágs* or sacred confluences of two rivers. Large numbers come from the Punjab and distant parts of Rájputána. The Hardwár meeting also possesses considerable mercantile importance, being one of the principal horse-fairs in Upper India, where Government purchases large numbers of remounts for the Native Cavalry. Commodities of all kinds, Indian or European, find a ready sale, and the trade in the staple food grains forms a lucrative traffic. Great attention has been paid to the police and sanitary arrangements of these fairs, which have now been regulated as effectually as the large concourse permits. The Hardwár Municipal Union manages the funds derived from leasing the sites for booths, and has lately expended large sums upon *ghâts*, *saráis*, roads, latrines, and other works of public utility. The Ganges Canal draws its supplies of water from a branch channel, close to Hardwár, between Máyapur and Kankhal. Third-class police station, post office. Telegraph office at Máyapur, in connection with the canal works at Rúrki (Roorkee). A considerable through trade from Dehra Dún passes through the town. The local business is almost entirely confined to supplying the wants of pilgrims. Hardwár Municipal Union includes the town itself and the neighbouring villages of Jawálapur and Kankhal. Municipal revenue in 1875-76, £3150; from taxes, £1576, or 1s. 5½d. per head of population (21,555) within municipal limits. Height above sea level, 1024 feet.

Harek.—Village in Lahore District, Punjab; situated on the right bank of the Sutlej (Satlaj), 3 miles below its confluence with the Beas (Biás). Lat. 31° 10′ N., long. 74° 59′ E. Formerly possessed a considerable trade with Afghánistán, Kashmír, and the Punjab towns; but now an insignificant place.

Hargám.—*Parganá* of Sítápur District, Oudh; bounded on the north by Kheri District; on the east by Lahárpur; on the south by Khairábád, and on the west by Sítápur *parganás*. First constituted a *parganá* by Akbar's finance minister, Todar Mall, and included within the Khairábád *chaklá*. In 1712, a body of Gaur Kshattriyas took forcible possession of Hargám town and the surrounding country; and their descendants still hold five-sixths of the soil. Area, 66 square miles, of which 43 are cultivated. The incidence of the revised Government land tax is at the rate of 2s. 9⅞d. per acre of cultivated area, 2s. 2d. per acre of assessed area, and 1s. 9⅝d. per acre of total area. Pop. (1869), 23,861, being Hindus, 20,075, and Muhammadans, 3786; residing in 4083 houses and 96 villages. Bi-weekly markets at Hargám, Kutikalám, and Mumtazpur.

Hargám.—Town in *parganá* of same name, Sítápur District, Oudh; situated about half-way on the high road between Kheri and Sítápur towns. Lat. 27° 45′ N., long. 80° 47′ E. Although now in a state of decay, apparently Hargám was once a very extensive city. Local tradition tells how it was founded by the mythical Harish Chandrá of the Solar dynasty; how it fell away after his death; how, many years afterwards, it was restored by a Rájá named Bairát; how it again decayed; and how it was once more rebuilt by the great Vikramáditya in the 2d century A.D. In 1712, a tribe of Gaur Kshattriyas from the west attacked and took it, since when it has gradually sunk to its present condition. Pop. (1869), 2832, the proportion of Hindus to Muhammadans being (roughly) as 3 to 2. The town contains 419 mud and 138 masonry houses, school, registration office. At a sacred tank known as the Surájkund, a biennial religious trading fair is held

in the months of Kártik and Jaishthá, that in the former month being attended by about 40,000 persons. One mosque, and four Hindu temples. Bi-weekly market. Military camping ground just outside the town.

Harha.—*Parganá* of *tahsíl* Unao, Unao District, Oudh; triangular in shape, with the apex to the south. The Lodh family who held the *parganá* were ousted by a Káyasth named Chaturbhuj Dás, an agent of Rájá Jái Chánd of Kanauj, who thus acquired the estate, and founded 75 new villages. His family in turn has decayed, and the present representative holds only two villages. The present chief of Mauranwán acquired the town of Harha by mortgage from this Káyasth family. The *parganá* is the largest in Unao, covering an area of 145,557 acres or 227 square miles, of which 100 are cultivated. Government land tax, £17,702, or at the rate of 2s. 4½d. per acre. The tenures are—*tálukdárí*, 55,127 acres; copyhold, 7610; *zamíndárí*, 48,245; *pattidárí*, 34,573 acres. Principal crops—wheat and gram. Soil good, but water is about 75 feet from the surface. Two small streams are used freely for irrigation, but both run dry in the hot weather. *Nílgaí* and antelope abound. Fourteen *bázárs*, and three religious trading fairs, the largest of which is held in November at Kolhwágára on the Ganges, and attended by 120,000 persons.

Harha.—Town in *parganá* of same name, Unao District, Oudh; about 8 miles south-east of the headquarters town. Lat. 26° 25′ 20″ N., long. 80° 34′ E. The present town was founded early in the 11th century, in the time of Mahmúd of Ghazní. Prior to this time, there was a village of Shekhápur on the same spot, in the possession of the Ahírs. The chief of the village quarrelled with the Lodh chief of the neighbouring village of Indrapur. The Lodhs were victorious in the fight that ensued; Shekhápur fell into their hands, and they rebuilt the place, called in fresh settlers, and changed the name to Harha. The Káyasth family, who succeeded the Ahírs, has supplied many officers of high note at the Delhi and Lucknow courts. The town is now of no importance. Pop. (1869), 5446, consisting of Hindus, 3998, and Muhammadans, 1448; number of houses, 1899. Bi-weekly *bázár*, Government school.

Harhar.—Village in Muzaffarnagar District, North-Western Provinces; distant from Muzaffarnagar 23 miles north-west. Pop. (1872), 948. Has an old ruined fort, overgrown with jungle. The place is only noticeable for the turbulence of its Ránghar Musalmán population, who lost their proprietary rights after the Mutiny, as a penalty for plunder and robbery.

Hariá.—South-western *tahsíl* of Basti District, North-Western Provinces, lying along the north bank of the river Gogra, and containing the headquarters town. Area, 494 square miles, of which 332 are cultivated; pop. (1872), 305,222; land revenue, £28,123; total Government revenue, £30,895; rental paid by cultivators, £70,562; incidence of Government revenue per acre, 1s. 9⅝d.

Hariána.—Tract of country in Hissár and Rohtak Districts, Punjab; deriving its name, according to tradition, from the eponymous Rájá Hari Chánd, who came hither from Oudh at some unknown period, and peopled all the surrounding territory. The tract consists of a level upland plain, interspersed with patches of sandy soil, and largely overgrown with brushwood, which formerly covered almost the whole surface. The Western Jumna Canal now fertilizes a large number of its villages; but under its series of native rulers, Hariána was known as a dry region, bordering on the outskirts of the great desert. The town of Hánsi long continued the local capital, till superseded in the 14th century by Hissár. (*See* HISSAR DISTRICT.) During the troublous period which followed the decline of the Mughal empire, Hariána formed the battle-field where the Marhattás, the Bhattis, and the Síkhs met to settle their territorial quarrels. In 1783, the terrible famine known as the *San Chálísa* devastated almost the whole surrounding country, which lay waste for several years. In 1795, the famous adventurer, George Thomas, took possession of Hissár and Hánsi. By the close of 1799 he had extended his power as far as Sírsa, and the Síkh chieftains of the cis-Sutlej States began to fear his dangerous encroachments. In 1801, they combined in requesting Perron, Sindhia's French general at Delhi, to attack the intruder; and a force under Bourquien accordingly marched against him in 1802, and drove him out of Hariána into British territory. For further particulars, see HISSAR, ROHTAK, and SIRSA DISTRICTS.

Hariána.—Municipal town in Hoshiárpur District, Punjab. Lat. 31° 38′ 15″ N., long. 75° 54′ E.; pop. (1868), 7745, consisting of 4442 Hindus, 2482 Muhammadans, 377 Síkhs, and 444 'others.' Headquarters of a police circle (*thánd*), but otherwise unimportant except as a local trading centre. Municipal revenue in 1875-76, £252, or 7¾d. per head of population (7802) within municipal limits.

Harigáon.—Village in the District of the Gáro Hills, Assam; on the Kálu river, on the road between the stations of Turá and Singimárí on the Brahmaputra, about 20 miles from each of these places. A small building has been erected for the accommodation of European travellers.

Harihar.—Municipal town on the right bank of the Tungabhadra river, in Chitaldrúg District, Mysore. Lat. 14° 30′ 50″ N., long. 76° 50′ 36″ E.; pop. (1871), 6401, of whom 4783 are Hindus; municipal revenue (1874-75), £166; rate of taxation, 6d. per head. An ancient town, which has yielded many inscriptions dating back to the 13th century. The chief temple now existing was erected in 1223. As a

frontier station, it has passed through frequent vicissitudes of possession. Up to 1865, it contained the cantonments of a regiment of Native infantry. In 1868, the bridge was completed over the Tungabhadra, which carries the trunk road from Bangalore to Dhárwár. It is built of stone and brick, with 14 elliptical arches of 60-feet span, and cost £30,000.

Hariharpur.—Village in Kádúr District, Mysore. Lat. 13° 30′ 25″ N., long. 75° 20′ 51″ E.; pop. (1871), 595. Has yielded inscriptions dating back to the 15th century, and is now the headquarters of the Koppa *táluk*.

Haringháta.—River of Bengal.—*See* BALESWAR.

Haringi (or *Suvarnavati*). — River in Coorg, which drains the northern plateau of that territory, and ultimately falls into the Káveri (Cauvery). In the upper part of its course, it forms several beautiful cascades.

Haripání (or *Háthbátiá*).—River in the north of Goálpára District, Assam, which rises in the Sálmárá Hills, and falls into the Brahmaputra opposite Goálpára town. Navigable during the rainy season by boats of 2 tons burthen.

Haripur.—Southern *tahsíl* of Hazára District, Punjab; inhabited by border tribes. Area, 649 square miles; pop. (1868), 116,368, or 179 per square mile. Total cultivated area, 136,451 acres.

Haripur.—Municipal town in Hazára District, Punjab, and headquarters of the *tahsíl*. Lat. 33° 59′ 50″ N., long. 72° 58′ 15″ E.; pop. (1868), 4800. Situated in an open plain, near the left bank of the river Dor. Founded in 1822 by Sardár Hari Sinh, Síkh governor of Hazára, from whom it derives its name. It formed the administrative centre under the Síkhs, and on the British annexation in 1849 became for a time the local headquarters; but the civil station was afterwards removed to Abbottábád. The town is symmetrically laid out, and divided into rectangular blocks by broad and shady streets. A handsome obelisk marks the grave of Kanora Sinh, commander of the Síkh artillery in 1848, who fell bravely defending his guns against the insurgents under Chattar Sinh. *Tahsíli*, police station, post office, dispensary. Municipal revenue in 1875-76, £622, or 2s. 9d. per head of population (4477) within municipal limits.

Haripur.—Town in Kángra District, Punjab, and headquarters of a police circle (*thánd*). Lat. 32° N., long. 76° 12′ E.; pop. (1868), 3285. Formerly the capital of one of the Katoch States, known as Goler or Haripur. Founded, according to tradition, about the 13th century by Hari Chánd, a Rájá of Kángra, who built this fortress on the banks of the Bán Ganga torrent, 9 miles south-west of Kángra town. Treacherously seized by Ranjít Sinh in 1813. A younger branch of the princely family still resides in the town, but the elder representatives migrated under Síkh rule to the neighbouring village of Nandpur. Haripur now possesses little importance. School-house, post office.

Haripur.—Village in an outlying portion of Patiála State, Punjab, lying among the scattered territory of Simla District. Lat. 31° 1′ N., long. 77° 3′ E.; situated on the road from Subáthu to Simla, 5 miles north of the former post. Has a small fort belonging to the Patiála Rájá. Elevation above sea level, 3147 feet.

Harischandragarh.—Hill fortress in Ahmednagar District, Bombay. One of the most remarkable of the hill forts of the Western Gháts; elevation above sea, 3894 feet.

Harnai (*Harnáy*).—Seaport in Ratnágiri District, Bombay; 56 miles north-west of Ratnágiri. Lat. 17° 48′ 50″ N., long. 73° 9′ E.; pop. (1872), 6193. Post office. Average annual value of trade for five years ending 1873-74—exports, £7171; imports, £10,546.

Harnhalli.—*Táluk* in Hassan District, Mysore. Area, 164 square miles; pop. (1871), 44,143; land revenue (1874-75), exclusive of water rates, £7241, or 3s. 1d. per cultivated acre. Special products—cocoanuts, chillies, castor-oil, tobacco, and cotton.

Harnhalli.—Municipal village in Hassan District, Mysore. Lat. 13° 14′ 30″ N., long. 76° 15′ 40″ E.; pop. (1871), 2234; municipal revenue (1874-75), £25; rate of taxation, 2½d. per head. An ancient town, with a fort and a large tank said to have been constructed in 1070, and many ruins of temples and other monuments; now the headquarters of the *táluk* of the same name.

Haroh. — River in Hazára and Ráwal Pindi Districts, Punjab; formed by the union of two streams, one of which rises in the Murree (Marri) Hills, and the other on the Mochpuri peak. Its upper course lies through a narrow valley, shut in by hills 6000 to 9000 feet in height; but after passing Khánpur, it debouches into level ground, and is utilized for purposes of irrigation. After a total course of 90 miles, it falls into the Indus in lat. 33° 46′ N., and long. 72° 17′ E., 12 miles below Attock. The floods on the Haroh are fierce and rapid, but in ordinary weather it may be forded at almost all points. The volume is too small and the bed too rough to permit of navigation. At certain seasons the lower part of its course in Ráwal Pindi District runs entirely dry, the water being all diverted to irrigate the surrounding fields.

Harowtee (*Haráoti*). — State in Rájputána, Central India. — *See* KOTAH.

Harpanhalli.—Town in Bellary District, Madras. Lat. 14° 47′ 5″ N., long. 76° 1′ 40″ E. A neat well-built town, formerly the seat of a principal *poligár*. Number of houses, 1810; pop. (1871), 7803; 66 miles south-west of Bellary. Sub-magistrate's and *munsif's* court, bungalow, and fine temple. There is a Jain colony here.

Harrand.—Village and ruins in Derá Ghází Khan District, Punjab; situated at the foot of the Suláimán Hills. Lat. 29° 28′ N., long. 70° 1′ E. Tradition connects the site with the Greek invasion, and derives the name from one Hari, a slave of Alexander. The existing remains are of Hindu origin, and date back to a time before the Muhammadan conquest. A fort, built by the Síkhs in 1836, is now occupied by a detachment of frontier militia.

Haruá.—Village in the Twenty-four Parganás, Bengal. The scene of a fair held every February in honour of Pír Gorá Chánd, a Muhammadan saint who lived nearly 600 years ago, and whose body (*'hár,'* bones) is buried here. The fair lasts a week.

Hasan Abdál.—Village and ruins in Ráwal Pindi District, Punjab; forming a part of the remarkable group of ancient cities which lie around the site of the ancient Taxila. Lat. 33° 48′ 56″ N., long. 72° 44′ 41″ E. Hiouen Thsang, the Chinese Buddhist pilgrim of the 7th century A.D., visited the tank of the Serpent King, Elapatra, which has been identified with the spring of Bába-Walí or Panja Sáhib, at this village. Successive legends of Buddhist, Bráhman, Muhammadan, and Síkh origin cluster around the sacred fountain. The shrine of Panja Sáhib crowns a precipitous hill, about 1 mile east of the town; and at its foot stands the holy tank, a small square reservoir of pure water, generally full of fish. Dilapidated brick temples surround the edge, while, on the west side, the water gushes out from beneath a rock marked with a rude representation of a hand, ascribed by the Síkhs to their founder, Bába Nának. The hill of Hasan Abdál has been celebrated for its beauty since the Mughal times; and to the south of the shrine, on the opposite bank of the Haroh, lies the garden of Wah, formerly a resting-place of the Emperors on their way to the valley of Kashmír, but now a mass of jungle-clad ruins. Facing the garden, on the Hasan Abdál side of the river, a tomb shaded by two ancient cypress trees covers the remains of one of Akbar's wives.

Hasanganj.—Market village in Unao District, Oudh; situated at the junction of the two roads from Miánganj and Rasúlábád, about 4 miles from the latter place. Considerable trade, chiefly in samples, bought by dealers for test. The village consists of one wide street, lined with trees and shops on both sides; pop. (1869), 1500; Government school.

Hasanpur.—Western *tahsíl* of Moradábád District, North-Western Provinces, lying along the eastern bank of the Ganges in a long and narrow strip. Area, 554 square miles, of which 285 are cultivated; pop. (1872), 159,580; land revenue, £18,618; total Government revenue, £19,043; rental paid by cultivators, £45,528; incidence of Government revenue per acre, 1s. 0½d.

Hasanpur.—Town in Moradábád District, North-Western Provinces. Lat. 28° 43′ 45″ N., long. 78° 19′ 55″ E.; pop. (1872), 8417, consisting of 4077 Hindus and 4340 Musalmáns. Lies on the plain, 5 miles east of the Ganges; distant from Moradábád 30 miles west. Agricultural town of merely local importance.

Hasanpur.—Town in Sultánpur District, Oudh; 4 miles west of Sultánpur town. Lat. 26° 16′ N., long. 32° 3′ E. The residence of the Hasanpur chiefs, by the most famous of whom, Hasan Khán, it was founded in the reign of Sher Sháh, being built on the site of a former village. The present town presents a poor and dilapidated appearance; but its prosperity is increasing, for whereas thirty years ago its population numbered only 600, in 1869 it amounted to 4338. Government school. Bandhua, a small village immediately adjoining Hasanpur, is notable as containing the tomb, and having been the residence, of Bába Sáhaj Rám, a celebrated Nanakshâhi *fakír.* His *sangat* or shrine is tended by a *mahant,* who has a large establishment of disciples living upon the revenue drawn from one or two endowed villages.

Hasárá.—Town in Dacca District, Bengal. Lat. 23° 35′ 13″ N., long. 90° 20′ 58″ E.; pop. (1872), 5707, being 4807 Hindus and 900 Muhammadans.

Háshtnagar (*'Eight Cities'*).—*Tahsíl* of Pesháwar District, Punjab; comprising a strip of country extending 10 miles eastward from the Swát river, and stretching from the hills on the north to the Kábul river on the south. Lat. 34° 3′ to 34° 25′ N., long. 71° 37′ to 71° 57′ E. Headquarters at Chársáda. Derives its name from its chief component villages, which probably occupy the site of the ancient Penkelaotis or Pushkalavati. General Cunningham, however, believes the modern term to be a corruption of Hastinagara, the city of Hasti, the Astes of Arrian. (*See* PESHAWAR DISTRICT and CHARSADA.) Area, 287 square miles; pop. (1868), 50,376; persons per square mile, 203; number of villages, 45.

Hásli (or Sháhi) Canal.—An irrigation work in Gurdáspur, Amritsar, and Lahore Districts, Punjab, extending from 31° 35′ to 32° 8′ 30″ N. lat., and from 74° 24′ 30″ to 75° 31′ 15″ E. long. First constructed about the year 1633, by Alí Mardan Khán, the famous engineer of Sháh Jahán. Its original object was to supply the fountains and water-works of the royal gardens near Lahore, especially those of the celebrated Shalimár pleasure-grounds; but it was utilized from the beginning for purposes of irrigation. The head-works lay close to the spot recently selected for the supply of the BARI DOAB CANAL. Leaving the river Rávi near Madhupur, 7 miles north-west of Pathánkot, it struck across the head of the Doáb, cutting the drainage of the hills below Dalhousie at right angles. The original Hásli Canal passed over the beds of the

mountain torrents by boulder dams, which required repair after every annual flood. It then turned southward, its course coinciding generally with that now occupied by the main channel of the modern Bári Doáb line. Shortly after the occupation of Lahore in 1846, projects were set on foot for improving Alí Mardan's work, then greatly out of repair; but, on examination, its faults of detail proved so numerous, that to rectify them would have been more expensive than to dig an entirely new channel. Accordingly the Bári Doáb Canal was drawn along the same general line, while Alí Mardan's cutting became a mere *rájbaha*, or distributing stream, and that only in the lower part of its course. The total length of the Hásli Canal from its head to Lahore was 110 miles; its width varied from 15 to 50 feet, and its depth from 2 to 7 feet. The volume of water at the time of annexation amounted to 200 cubic feet per second, enhanced by the subsequent improvements to 500 cubic feet. For further particulars and present statistics, see BARI DOAB CANAL, of which work the Hásli now forms a portion.

Hassan.—A District of Mysore State, forming the north-western portion of the Ashtagrám Division, and lying between 12° 30′ and 13° 22′ N. lat., and between 75° 32′ and 76° 58′ E. long. Bounded south-west by the Madras District of South Kanara, and on the south partly by the State of Coorg. Estimated area, 3291 square miles; population, according to the Census of 1871, 669,961 persons. The administrative headquarters are at the town of HASSAN, in the centre of the District.

Physical Aspects.—The main portion of the District consists of the river basin of the HEMAVATI and its tributaries. It naturally divides into two portions—the Malnád or hill country, which includes some of the highest ranges of the Western Gháts; and the Maidán or plain country, sloping towards the south in the direction of Mysore District. The western boundary is constituted by lofty and precipitous mountains, among which the peak of Subrahmanya on the south attains the height of 5583 feet above sea level. The rest of the Malnád is generally undulating, and presents most picturesque scenery of a park-like character. The slopes are covered with long grass or verdant crops of dry grain, and the knolls are crowned with noble clumps of forest timber, which frequently embower ancient shrines. The Maidán has an elevation varying from 3100 to 2600 feet. The surface is also undulating, and for the most part under cultivation; the higher ridges are of a bleak, stony character. It is in this tract that are to be found the irrigation channels, which form so marked a feature throughout the entire Ashtagrám Division. The Hemavati, which flows into the Káveri (Cauvery) in the extreme south, is the great river of the District; its most important tributary is the Yagachi. The upper slopes of the Western Gháts are abundantly clothed with magnificent forests, which

have not yet been rendered productive, owing to their inaccessibility. The finest timber-trees are the *pún* (Calophyllum angustifolium), *som* (Soymida febrifuga), and blackwood (Dalbergia latifolia). Ebony and sandal-wood are also found, and the pepper creeper grows wild. The rest of the District is sufficiently wooded to meet the local demands for fuel. An area of 35 square miles in the Manjarábád *táluk* has been reserved as State forest. Wild animals of all sorts abound, including the wild elephant, tiger, leopard, bear, bison, *sámbhar* deer, and jungle sheep. Among mineral products may be mentioned kaolin, felspar, quartz, and other materials suitable for the manufacture of pottery. Hematite iron is worked in some places, and there are valuable quarries of potstone. The higher mountains are of granitic formation. The soil of the valleys is a rich, red alluvial loam; the 'black cotton-soil' only occurs in a few isolated patches.

History.—The early history of this region is of the usual legendary character. The first authentic evidence is supplied by the inscriptions and statues of the Jains, but it would be rash to assign even an approximate date to these memorials. Even at the present day the Jains are numerously represented in the village of Srávan-belgola, which they are locally reported to have colonized during the reign of Chandragupta in the 3d century B.C. On the hill of Indrabetta in this neighbourhood are many ancient temples, and inscriptions cut in the rock with characters a foot long. On the adjoining peak of Chandrabetta is the colossal statue of Gomateswara, 60 feet high, which is conjectured to have been formed by cutting away the solid rock all round. Real history does not begin until the epoch of the Ballála dynasty, which lasted from the 10th to the 14th century A.D. Their capital was at Dwarávati-pura, the ruins of which are still to be seen scattered around the village of Halebid in this District. The earlier kings professed the Jain faith, but the finest temples were erected to Siva by the later monarchs of the line. While the Ballálas were at the zenith of their power, the whole of Southern India acknowledged their sway. In 1311, a Muhammadan army under Kafur, the general of Alá-ud-dín, sacked Dwarávati-pura, and returned to Delhi laden with spoils. The Ballála prince escaped to Tondanur (now in the adjoining District of Mysore), and the dynasty continued to exist for sixty years more. The monarchs of Vijáyanagar succeeded to their place as lords paramount over all the territory south of the Kistna river; but the present District of Hassan ceased to be the seat of a metropolis, and became a remote Province, ruled over in a semi-independent fashion either by viceroys or by local *poligárs*. The Province was known as Balam, a name properly applicable only to the Malnád, and the capital was at Aigar. The eastern part of the District was under the rule of separate chiefs. During the troubled period that followed the fall of the Vijáyanagar

empire, this remote tract plays no prominent part in history. The greater part of it was subjected in the 17th century by the conquering Rájás of Mysore, and later, the whole acknowledged the despotic rule of Haidar Alí. But Hassan District appears to have been never thoroughly incorporated into the Mysore State. After the death of Tipú in 1799, one of the local *poligárs*, named Venkatádri, was bold enough to assert his independence against the British. He was finally captured and hanged. Since 1832, this District with the rest of Mysore has been under direct British administration.

Population.—A *khána-sumári*, or house enumeration of the people, in 1853-54 returned a total of 469,254 persons. The regular Census of 1871 ascertained the number to be 669,961, showing an increase of nearly 43 per cent. in the interval of eighteen years, if the earlier estimate can be trusted. The area of the District is estimated at 3291 square miles, which yields an average of 203·6 persons per square mile, an average rising to 529 in the *táluk* of Arkalgad. Classified according to sex, there are 329,097 males and 340,864 females; proportion of males, 49·11 per cent. There are, under 12 years of age, 129,122 boys and 124,989 girls; total, 254,111, or 38 per cent. of the District population. The occupation tables are scarcely trustworthy; but it may be mentioned that 148,723 persons are returned as connected with agriculture, and 23,660 with manufactures and arts. The religious division of the people shows—Hindus, 650,877, or 97·1 per cent.; Muhammadans, 14,460, or 2·1 per cent.; Jains, 1954, or ·29 per cent.; Christians, 2670, or ·39 per cent. The Hindus are further subdivided, according to the two great sects, into 264,317 worshippers of Vishnu and 386,560 worshippers of Siva. The Bráhmans number 19,067, of whom the majority belong to the Smarta sect; those claiming the rank of Kshattriya-hood are returned at 4115, including 1814 Marhattás and 1455 Ráchevárs; the Vaisyas are represented by only 1731, of whom 1648 are Komatis. Of inferior castes, by far the most numerous are the Wokligas (238,780), who are agricultural labourers; next come the Kurubas (55,341), shepherds; and the Neyige (15,972), weavers. The Lingáyats, who have always been influential in this part of the country, number 70,168. Out-castes are returned at 128,913; wandering tribes, 5109; wild tribes, 3602; and there is 1 Coorg. The Musalmáns almost entirely belong to the class of Deccani (Dakhini) Musalmáns of the Sunni sect. The Jains are mostly to be found in the *táluk* of Belur, and nearly every individual among them is engaged in the manufacture of brass-ware. Their former predominance in this region, and their ancient inscriptions and sculptures, in the neighbourhood of Srávan-belgola, have been already alluded to. Out of the total of 2670 Christians, 78 are Europeans, mostly employed on the coffee estates, and 64 are Eurasians, leaving 2528 for native Christians.

According to another principle of division, there are 127 Protestants and 2543 Roman Catholics.

The District contains 3197 primary (*asali*) populated towns and villages, with 1019 houses of the better class, or over £50 in value, and 122,313 houses of the inferior sort. As compared with the area and the population, these figures yield the following averages:—Villages per square mile, ·97; houses per square mile, 37; persons per village, 210; persons per house, 5·43. The two following places each contain more than 5000 inhabitants:—HASSAN town, 6305; NARSIPUR, 5253. There are altogether 10 municipalities in the District, with an aggregate municipal revenue in 1874-75 of £984. The most interesting tract in the District is the Manjarábád *táluk*, included within the Malnád or hill country, where the cultivation of coffee has recently assumed great importance. This *táluk* consists of 6 *náds*, subdivided into 36 *mandes*. Each *mande* has a *pátel* or headman of its own, who lives in a fortified enclosure, and still preserves a certain feudal superiority over the villagers. The village of Sathalli is the centre of an agricultural Christian community, founded by the Abbé Dubois. The total number of this community is about 1000; and they are known as 'caste Christians'—that is to say, they retain all the social observances of their Hindu ancestors. At Melukot there is a celebrated temple of Vishnu, under his appellation of Krishna, which is richly endowed, and supports a numerous colony of Srí Vaishnav Bráhmans. The Jain sculptures on the twin hills of Chandrabetta and Indrabetta have been referred to above.

Agriculture.—The staple cultivation of the District consists of dry and wet crops in almost equal proportions. In the Malnád or hill country, rice of an inferior quality furnishes the greater portion of the food supply; the hill slopes are cut into terraces and watered from tanks at the valley heads. In the Maidán or low country, the cultivation of *rágí* (Cynosurus corocanus) predominates; but excellent rice is grown in the river valleys, wherever the fields can be irrigated by means of artificial channels drawn off from the rivers by anicuts. The statistics of irrigation show a total of 6905 tanks in the District, and 215 miles of canals, yielding an annual revenue of £6818. The other crops include tobacco, sugar-cane, the cocoa-nut and areca-nut palms, plantain trees, and chillies. The first coffee plantation was opened by a European in the Manjarábád *táluk* in 1843; and the cultivation has proved so successful in this tract that at the present time nearly every native has a few coffee-trees planted at the back of his house. There are now altogether 155 coffee estates owned by Europeans, and 9500 native holdings. The cardamom plant, which grows wild on the Western Gháts, has recently been brought under systematic cultivation. The agricultural stock of the District consists of 4000 carts and

97,142 ploughs. The following agricultural statistics are merely approximate:—Out of a total area of 3291 square miles, only 779 are under cultivation and 189 more are returned as cultivable. The area under rice is 64,558 acres; wheat, 338; other food grains, 276,863; oil-seeds, 21,921; coffee, 52,889; vegetables, 13,788; cocoa-nut and areca-nut, 13,573; tobacco, 7947; sugar-cane, 443; fibres, 252; cotton, 48; mulberry, 42. The annual out-turn of food grains is valued at £582,500. The cattle of the country are generally of a diminutive size; but in certain parts a fine breed is to be seen, descended from the famous *amritá mahál*, or royal breed of Haidar Alí, which is still maintained by the Mysore Government. In the low country, the well-to-do *rayats* find it worth their while to breed cattle on purpose for the hills, where the rank pasturage and the humidity of the climate annually cause a great mortality. A large number of draught cattle are also required for the through carrying trade of the District. In the Nagamangala *táluk*, a fine breed of sheep exists, which has been much improved by crossing with merino rams imported by Government. The State sheep farm in this tract was closed in 1863. The total live stock of the District consists of 342,183 cows and bullocks, 180 horses, 3109 ponies, 4536 donkeys, 272,395 sheep and goats, and 12,340 pigs.

Manufactures, etc.—Hassan District is too exclusively a rural region to possess any important industries. Cotton cloth and country blankets or *kamblís* are woven in almost every village to meet the local demand. The winding of raw silk, and the making of such silk articles as purses and tassels, are confined to the Musalmán section of the community. The Jains, on the other hand, have the monopoly of the manufacture of brass-ware. The braziers work upon a system of advances, and the value of their annual out-turn is estimated at £45,000, much of which is exported into the neighbouring Districts of Mysore and Kanara. Bags for packing grain are made from gunny, and also from the bark of a tree. About 10,800 lbs. of saltpetre are prepared every year at Nagamangala for the use of the troops at Mysore city.

The exports from Hassan are large, consisting chiefly of food grains and coffee; but the trade is chiefly in the hands of traders from other Districts. It is estimated that about 18,000 tons of *rágí*, 3000 tons of rice, and 2500 tons of other grains are exported annually. The imports received in return are European piece-goods, hardware of all sorts and spices. The largest weekly market is held at Alúr, where large quantities of rice change hands. Other trading centres are Yesalurpet, Kenchammana, Hoskot, and Channaraypatna. A great annual religious gathering and fair, attended by about 10,000 persons, takes place every year at Melukot. There are no railways in the

District. The length of imperial roads is 183 miles, maintained at an annual cost of £2982; of District roads, 382 miles, costing £1953. Four passes lead through the Western Gháts towards Mangalore on the Malabar coast, along two of which good roads have been constructed.

Administration.—In 1873-74, the total revenue of Hassan District, excluding education and public works, amounted to £126,908. The chief items were—land revenue, £100,482; *ábkárí*, or excise, £6362; *mohatarfa*, or assessed taxes, £4950; forests, £4314. The District is subdivided into 9 *táluks*, or fiscal divisions, with 77 *hoblis*, or minor fiscal units. In 1870-71, the total number of proprietors or coparceners was 121,259. During 1874, the average daily population of the District jail was 33·28, and of the *táluk* lock-ups, 14·10; total, 47·38, of whom 5·67 were women, showing 1 person in jail to every 14,255 of the population. In the same year, the District police force numbered 59 officers and 398 men, and the municipal police, 1 officer and 12 men; total, 470 men of all ranks, maintained at an aggregate cost of £3692. These figures show 1 policeman to every 7 square miles of area, or to every 1425 persons of the population; the cost being £1, 2s. 5d. per square mile, and 1d. per head of population. The number of schools aided and inspected by Government in 1874 was 243, attended by 4379 pupils, being 1 school to every 13·54 square miles, and 6·5 pupils to every thousand of the population. In addition, there were 147 unaided schools, with 1657 pupils.

Medical Aspects.—The climate of Hassan town does not materially differ from that of the neighbouring District of Bangalore. The average mean temperature is about 76°, the thermometer seldom rising above 88°, or sinking below 64°. In the summer months of March and April, the heat is sensibly modified by the sea-breeze blowing from the west coast. From its proximity to the Gháts, and partly also owing to the moisture engendered by the forests and marshes, the Malnád has a temperature several degrees lower than the plains. The average rainfall at Hassan town, calculated over a period of seven years, is 36 inches; but in the Malnád, as much as 100 inches sometimes falls in the year. In this latter tract, the south-west monsoon prevails continuously from May to August; whereas in the plains, the north-east monsoon of October brings the larger proportion of the rainfall.

The Malnád is greatly dreaded for the malarious fever which prevails after the early rains. It has been observed that Europeans ultimately become better acclimatized to its attacks than natives. The vital statistics of the District are not trustworthy; but it may be mentioned that in 1872, out of a total of 5706 deaths reported, 3589 were assigned to fevers, 343 to bowel complaints, 259 to small-pox, and 20

to snake-bite or wild beasts. In 1874, the dispensary at Hassan town was attended by 9 in-patients, of whom 1 died; the out-patients numbered 6677.

Hassan.—*Táluk* in District of the same name, Mysore. Area, 371 square miles; pop. (1871), 100,523, including 633 Jains and 888 Christians; land revenue (1874-75), exclusive of water rates, £13,049, or 3s. 3d. per cultivated acre. Supplies cattle and carts for the carrying trade of the coffee districts.

Hassan (from Hásin-amma, '*The smiling goddess*').—Chief town of the District of the same name, Mysore; 114 miles west of Bangalore. Lat. 13° 0′ 16″ N., long. 76° 8′ 8″ E.; pop. (1871), 6305, consisting of 4781 Hindus, 1013 Muhammadans, 274 Jains, and 237 Christians; municipal revenue (1873-74), £469; rate of taxation, 1s. 6d. per head. The original town was at the neighbouring village of Channaráypatna, founded in the 10th century, and removed to the present site 200 years later. Headquarters of a *táluk* of the same name.

Hassangadi ('*New Bázár*'—Kanarese; also called *Haidargarh*).—A *ghát* or pass in South Kanara District, Madras. Lat. 13° 40′ N., long. 75° 1′ E.; on the route between Bednúr, the seat of the Nagar Government, and the Malabar coast, and much used in the campaigns with Tipú Sultán. Practicable for carts as far as Sankarnaráyan, the head of the water communication with the coast.

Hassanúr.—*Ghát* or pass in Coimbatore District, Madras. Lat. 11° 35′ N., long. 77° 10′ E. Good road for wheeled traffic from Coimbatore *viâ* Satyamangalam to Mysore, with an easy gradient for 8 miles to a height of 3000 feet to Dimmam, and thence 4 miles to Hassanúr (where the Collegal or Kalligal road branches) and the Mysore frontier. The road is much used, and meets the Gazzalhatti tract at Hardanhalli, in Mysore.

Hastinapur.—Ancient city in Meerut (Mírath) District, North-Western Provinces, lying on the bank of the Burh Gangá or former bed of the Ganges, 22 miles north-east of Meerut. Lat. 29° 9′ N., long. 78° 3′ E.; pop. (1872), 77. Hastinapur formed the capital of the great Pándava kingdom, celebrated in the *Mahábhárata*, and probably one of the earliest Aryan settlements outside the Punjab. Few traces of the ancient city now remain; but tradition points to a group of shapeless mounds as the residence of the children of the moon, the Lunar princes of the house of Bhárata, whose deeds are commemorated in the great national epic. After the conclusion of the famous war which forms the central episode of that poem, Hastinapur remained for some time the metropolis of the descendants of Parikshit, but the town was finally swept away by a flood of the Ganges, and the capital was transferred to Kausámbi.

Hastings, Fort.—Fortified hill in Kumáun District, North-Western

Provinces. Lat. 29° 25′ N., long. 80° 5′ E.; distant from Lohughát 3½ miles west. Elevation above sea level, 6240 feet.

Hasuá.—Municipal town and police outpost station in Gayá District, Bengal; situated on the right bank of the river Tiliyá to the south of the Gayá and Nawádá road, 15 miles from Nawádá town. Lat. 24° 49′ 43″ N., long. 85° 27′ 35″ E.; pop. (1872), 4963 Hindus, 1088 Muhammadans, 68 'others'—total, 6119, viz. 2937 males and 3182 females; municipal income in 1871, £120; expenditure, £86; rate of municipal taxation, 4⅝d. per head of town population.

Hatampur.—Town in Sháhábád District, Bengal. Pop. (1872), 2088.

Háthházárí.—Town and headquarters of a police circle (*thánd*) in Chittagong District, Bengal; situated a few miles east of Kumiriá, on the road from Rámgarh to Chittagong town. Lat. 22° 30′ 5″ N., long. 91° 50′ 45″ E.

Háthíbárí.—State forest in Biláspur District, Central Provinces; comprising about 15 square miles along the Jonk river, 20 miles from Seorináráin. Contains some fine teak, and a promising young plantation of the same timber.

Háthpor.—Curious tunnel on the northern face of Rámgarh Hill, Sargujá State, Chutiá Nágpur. Thus described by Colonel Dalton:—

'Two of the spurs of the great rock, themselves rocky and precipitous, forming buttresses on the northern face, instead of gently blending with the plain like the others, have their bases truncated, and then united by a vast natural wall of sandstone rock, 150 yards thick and 100 to 150 yards in height. A semicircular or rather horse-shoe-shaped nook is thus formed, which, from the height and precipitous nature of the sandstone rock enclosing it, would be almost inaccessible, had not nature provided an entrance by a natural tunnel through the subtending wall. This is called the Háthpur. The waters collected from springs in the nook form a little stream that flows out through the tunnel. At its mouth it is about 20 feet in height by 30 in breadth; but at the inner extremity of its course of 150 yards it is not more than 8 feet by 12. A man on horseback could ride through it. The sand of the stream in the tunnel was impressed with old and recent footprints of a whole family of tigers, who had taken up their abode in this pleasant and secure retreat; but we did not find them at home. The horse-shoe embraces an acre or two of ground, well wooded and undulating, so that a considerable body of men could conveniently encamp there.'

On the southern side of the recess rises a sandstone cliff, which forms part of the main body of the hill, and contains two good-sized caves. The larger of these is 44 feet long, 10 feet wide, and about 6 feet high. It was, no doubt, of natural origin, but the walls have been finished throughout with cutting tools, raised benches have been cut out of the

solid rock, and recesses partially secluded by buttresses on either side of the entrance. There is no attempt at ornamentation, and nothing to indicate that the cave was intended for a place of worship. The smaller cave is about 40 yards distant from the larger, and at the same elevation. The interior shows little or no sign of artificial excavation. Both caves contain roughly cut inscriptions, which have been pronounced by Rájendralála Mitra to be 'in the old Pálí character, but not of the time of Asoka.' If, as Colonel Dalton suggests, the recesses in the larger cave were designed as private apartments for females, it is more than probable that the place was used as a hiding-place for the women and treasure of the ruling family during Marhattá inroads. Local tradition, however, remembers nothing so modern, and describes the caves as the residence of Ráma during the fourteen years of forest exile which preceded his conquest of Ceylon. Here it was that Sítá was carried off by the demon Rávana, and two deep grooves in the rock in front of the larger cave are said to be portions of the enchanted circle which Ráma drew around her for her protection. The name Háthpor may be a corruption of *Háthipola*, or the 'Elephant Gate;' but it has also been suggested that the name implies that the tunnel was made by hand. It certainly bears no signs of human workmanship, and another explanation attributes it to the trickling of water through crevices in the sandstone.

Háthras (*Hattras*).—South-western *tahsíl* of Alígarh District, North-Western Provinces, consisting of a level alluvial upland, traversed throughout by the East Indian Railway main line. Area, 291 square miles, of which 246 are cultivated; pop. (1872), 207,330; land revenue, £39,870; total Government revenue, £45,858; rental paid by cultivators, £71,271; incidence of Government revenue per acre, 4s. 3⅜d.

Háthras (*Hattras*).—Town in Alígarh District, North-Western Provinces. Lat. 27° 35′ 31″ N., long. 78° 6′ 9″ E.; pop. (1872), 23,589, consisting of 21,121 Hindus and 2468 Muhammadans. Situated on the Alígarh and Agra road, 21 miles south of the former, and 29 miles north of the latter town. Well-built and prosperous trading centre, with numerous brick and stone houses. Held at the end of last century by the Ját Thákur, Dáya Rám, whose ruined fort still stands dismantled at the east end of the town. After the British annexation in 1803, the Thákur gave repeated proofs of an insubordinate spirit; and, in 1817, the Government was compelled to send an expedition against him, under the command of Major-General Marshall. Háthras was then one of the strongest forts in India, the works having been carefully modelled upon those of the adjacent British fortress at Alígarh. After a short siege, terminated by a heavy cannonade, a magazine within the fort blew up, and destroyed half the garrison. Dáya Rám himself made his escape under cover of the night, and the remainder of the native force surrendered at discretion. An old temple in the fort still bears traces of the furious fire which it underwent during the assault. A municipal hall and school-house stand upon the brink of a new tank; and the town also contains a post office and Government charitable dispensary. Since it came under direct British rule, Háthras has rapidly risen to commercial importance, and now ranks second to Cawnpore among the trading centres of the Doáb. The exports of coarse sugar in 1872-73 amounted to 87,000 *maunds*, whilst those of refined sugar hardly fell short of the same figure. Grain of all sorts, oil-seeds, cotton, and *ghí*, form the other staples of outward trade; while the return items comprise iron, metal vessels, European and native cloth, drugs and spices, and miscellaneous wares. Háthras, in fact, ranks as the great centre of supplies for the Upper Doáb, Rohilkhand, and the neighbouring Punjab Districts. The new line of rail to Muttra, and the broad gauge line connecting the business portion of the town with the East Indian main line, will doubtless still further develop the local trade. Municipal revenue in 1875-76, £2591; from taxes, £2153, or 1s. 4⅝d. per head of population (30,900) within municipal limits.

Hatiá.—Island and police circle in Noákhálí District, Bengal; situated in the estuary of the Meghná river, and lying between 22° 26′ and 22° 41′ N. lat., and between 90° 59′ and 91° 11′ 30″ E. long. Pop. (1872), 54,147, being 12,158 Hindus, 41,988 Muhammadans, and 1 Christian; number of males, 28,079—of females, 26,068. The island lies low, and is protected from incursions of the sea by embankments. Occasionally, however, at the period of the south-west gales in May and October, storm waves roll inland sometimes for miles, as in the cyclones of 1st November 1867 and 31st October 1876, completely submerging the island, and spreading death and destruction around. In the last-mentioned cyclone, it is estimated that 30,000 lives were lost in Hatiá, out of a population returned in 1872 at 54,147.

Hattá.—Chiefship in Bálághát District, Central Provinces. Area, 134 square miles, of which 66 are cultivated; number of villages, 75. Formerly part of the KAMTHA State; confiscated by the Rájá of Nágpur in 1818, who bestowed the Hattá chiefship on a Lodhí family. The grantee was still alive in 1870, though reputed to be over a hundred years old. Chief village, Hattá; lat. 21° 44′ N., long. 80° 19′ E.

Hattá.—Northern *tahsíl* or revenue Subdivision in Dámoh District, Central Provinces. Pop. (1872), 106,458, residing in 433 villages or townships and 24,251 houses; area, 1007 square miles.

Hattá.—Chief town of Hattá *tahsíl*, Dámoh District, Central Provinces. Lat. 24° 8′ N., long. 79° 39′ E.; pop. (1877), 6251. Of the Gond fort near the north gate, scarcely a trace now remains. The

Bundelas built a stronger fort in the 17th century, which the Marhattás afterwards enlarged. On the cession of the District to the British in 1818, the headquarters were first established at Hattá, but removed to Dámoh in 1835. The town has a *tahsíli* or sub-collector's office, police station, dispensary, *sarái*, and Government school-house. At the market, held twice a week, a brisk trade is done in red cloth, which is exported to Bundelkhand and elsewhere.

Hattras.—*Tahsíl* and town in Alígarh District, North-Western Provinces.—*See* HATHRAS.

Hattúr (or *Kundada-betta*).—Mountain in the territory of Coorg, being one of the highest peaks in the Bráhmagirí range. On the summit is a small stone temple dedicated to Iswara or Siva, repaired in 1853; standing on the edge of a precipice 500 feet high. A festival or *játra* is annually held here.

Hatwá.—Village in Sáran District, Bengal. Lat. 26° 21′ 36″ N., long. 84° 20′ 21″ E. The residence of the Mahárájá of Hatwá, a wealthy Hindu landholder, who owns 1319 out of the 4350 villages in Sháhábád, besides 46 villages in neighbouring Districts. His estate comprises an area of 390,015 local *bíghás*, and yields him a gross rental of £88,266, of which £19,353 is paid to Government as land revenue. The estate has been held by the present family from a period anterior to the Muhammadan conquest of Bengal, and the succession has been uninterrupted during a line of 101 Rájás.

Hau-gan.—Revenue circle in Amherst District, Tenasserim Division, British Burma; lying on the left bank of the Re river, and reaching from the hills to the sea-coast. Pop. (1876), 2066; land revenue, £320; capitation tax, £213.

Hauper.—*Tahsíl* and town in Meerut (Mírath) District, North-Western Provinces.—*See* HAPUR.

Háveri.—Town in Dhárwár District, Bombay; situated 56 miles south-east of Dhárwár, on the road from Poona to Bangalore. Lat. 14° 47′ 30″ N., long. 75° 29′ E.; pop. (1872), 5465. Háveri has a considerable general trade in cotton and other commodities, especially in cardamoms brought from Kanara to be washed in a small lime-impregnated well. Sub-judge's court.

Havilí.—Western *parganá* of Múl *tahsíl*, Chánda District, Central Provinces; containing 102 villages, but no large town except CHANDA. Area, 448 square miles. Hill and jungle on the north and east occupy more than half the *parganá*. The Virái intersects it from north to south, and the Andhárí flows along its eastern boundary. Towards the west the soil is black loam.

Havili Oudh (*Haweli*).—*Parganá* in Faizábád (Fyzabad) District, Oudh. Bounded on the north and east by the Gogra river; on the south by the Madha river and *parganás* Pachhimráth and Amsin; and on the west by *parganá* Mangalsi. Area, 126 square miles, or 80,453 acres; area under crops, 43,000 acres; under groves, 5280; capable of cultivation but not under tillage, 5836 acres. Government land revenue, £9692; average incidence, 3s. 10½d. per acre of arable land. A densely populated *parganá*, the Census of 1869 returning the inhabitants at 131,337, or an average of 1042 per square mile. The chief landed families are the Bashisht Bráhmans, Surájbansi Kshattriyas, Gargbansi Kshattriyas, Bais Kshattriyas, Upadhia Bráhmans, Bhadarsa Sayyids, and the Kurmís of Maujadubanspur. The estates of the last-named family were confiscated owing to the rebellion of the Rájá in 1857. AJODHYA and FAIZABAD towns are situated in this *parganá*.

Háwalbágh.—Village in Kumáun District, North-Western Provinces; picturesquely situated on the left bank of the Kosila, 5 miles north of Almora. The climate being warmer than that of the headquarters station, Háwalbágh forms the favourite residence of the civil officers. Lat. 29° 38′ 25″ N., long. 79° 39′ 5″ E. Cantonments exist for the Provincial battalion. Elevation above sea level, 3889 feet.

Hazára.—A British District in the Lieutenant-Governorship of the Punjab, lying between 33° 45′ and 35° 2′ N. lat., and between 72° 35′ 30″ and 74° 9′ E. long. Area, 2771 square miles; population in 1868, 343,929 persons. Hazára forms the north-eastern District of the Peshá-war Division. It is bounded on the north by the Black Mountains, the Swáti country, Kohistán, and Chilás; on the east by the Native State of Kashmír; on the south by Ráwal Pindi District; and on the west by the river Indus. The administrative headquarters are at ABBOTTABAD.

Physical Aspects.—The District of Hazára forms a wedge of British territory extending far into the heart of the outer Himálayan range, and consists of a long and narrow valley, shut in on either side by lofty mountains, whose peaks rise to a height of 17,000 feet above sea level. The base of the wedge, or open mouth of the valley, some 56 miles in breadth, looks towards the plain country of Ráwal Pindi District to the south; but as it runs northward, the width of the glen rapidly diminishes, till it tapers at last to a narrow point in the romantic vale of Khágán. This gorge, 60 miles in length, is closely contracted by mountains, which hem it in to the right and left, while beneath, the river Kunhár forces its way through the central ravine to join the Jhelum (Jhílam) at Pattan. The mountain chains which bound the Khágán valley sweep southward into the broader portion of the District, still maintaining a general parallel direction, and send off spurs on every side, which subdivide the country into numerous minor dales. Ranges of the same system cut off the valleys of Agror (Ughi), Mánsahra, Abbottábád, and Khánpur, drained respectively by the Unár, the Sirhan, the Dor, and the Haroh, all of which are tributaries

of the Indus. The intervening ridges crowd closely upon one another, leaving mere deeply scored ravines for the excavating streams; but open and level patches occasionally occur, and gradually increase in width as the channels trend southward. At last, upon the confines of Ráwal Pindi, the hills subside, and the valleys open out towards the Punjab plain. The whole amount of level space throughout the District has been calculated at from 250 to 300 square miles. The Jhelum forms the eastern border of the District for 20 miles, flowing in a narrow rocky bed, through which it seethes and rushes in a boisterous torrent. The scenery of Hazára everywhere presents the most picturesque and charming variety. To the north, stand the distant peaks of the snow-clad ranges; midway, the central mountains rise clothed to their rounded summits with pines and other forest trees, while grass and brushwood spread a green cloak over the nearer hills, and cultivation covers every available level slope in the foreground. The Haripur and Pakli plains consist of richly irrigated fields, and the hillsides elsewhere have been industriously terraced so as to make room artificially for narrow strips of simple tillage. Water also adds a charm to the landscape in every form, from the raging floods of the Kunhár and the Jhelum, or the strong deep stream of the Indus, to the minor rivulets which scoop out the lateral valleys, and the silent lakes at the head of the Khágán glen. Thriving villages stand in every open plain, or perch half-way up the hills; and scattered homesteads around the cultivated slopes bespeak the novel security of British rule.

History.—The early remains of Hazára apparently date back to a period as remote as that of Alexander the Great. A group of ancient mounds, extending into the southern portion of this District from that of RAWAL PINDI, have been identified by General Cunningham with the site of Taxila, the great city where the Macedonian invader was hospitably entertained after his passage of the Indus. With this exception, however, no relics of antiquity exist within the valley, and even these scanty remains can only be included in the borders of Hazára by the courtesy of artificial boundary lines. The history of the mountain glen itself begins at a far later period. The name of Hazára probably belonged originally to a Túrki family who entered India with Timur in the 14th century, and subsequently settled in this remote region. During the prosperous period of the Mughal dynasty, the open southern plain formed part of the Attock government, the eastern slopes were ruled by a branch of the Ghakar family of Ráwal Pindi, with Khánpur for their capital; while the northern gorge belonged to the Kashmír Province, but was probably administered by the Hazára Túrkis. Then, as now, the population included a number of mixed tribes, with a large substratum of Gújars, Kharáls, and Dhúnds, all of whom can apparently claim a pure Hindu origin, though

they accepted the faith of Islám at a very early date. Towards the beginning of the 18th century, a horde of Afghán invaders from Swát poured into the vale of Khágán, and occupied the whole northern tract. About the same period, other associated tribes, not of pure Afghán descent, swarmed into the District across the eastern frontier; while the Gújars, Kharáls, and Dhúnds began simultaneously to assert their independence, so that the utmost anarchy prevailed throughout all Hazára. In 1752, Kashmír and the Punjab passed into the hands of Ahmad Sháh Duráni, whose firmer administration seems for a time to have restored some semblance of order among the anarchic elements of this savage country. But the Duráni Empire did not long retain sufficient vitality to support a stable government in so remote a dependency. Fierce dissensions between the local chieftains fill up the annals of the valley during the latter half of the 18th century, until the time when Hazára attracted the attention of the rising Síkh monarchy. Ranjít Sinh first obtained a footing in the District in 1818, and, after eight years of constant aggression, became master of the whole country. Sardár Hari Sinh was the chief instrument of the Sikh Mahárájá; but even that energetic leader found his abilities taxed to the utmost by the dogged resistance of the mountaineers. From 1826 to 1846, the Lahore Government exercised undoubted supremacy throughout Hazára, and one by one the native chieftains lost even the small measure of independence which they had originally been suffered to retain. Revolts of almost yearly occurrence, however, kept the country in a state of turmoil; and when the vigour of the Síkh kingdom began to relax under the successors of Ranjít Sinh, the people of Hazára seized the opportunity for recovering their independence, and in 1845 they rose as one man. They stormed the Síkh forts, laid siege to Haripur, the seat of administration, and drove the Governor, Diwán Mulráj, across the borders. A Hindustání fanatic, Sayyid Akbar of Sitána, was elected king by the assembled chieftains, and Hazára looked forward once more to a native Musalmán *régime.* But in the following year, the greater part of the District was included in the territory ceded to Rájá Ghuláb Sinh by the British, at the conclusion of the first Síkh war. A force despatched by Ghuláb Sinh, under the control of two British Political Officers, forced an entry into Hazára from Srínagar, aud quelled the insurrection without serious difficulty. In the year 1847, the new ruler of Kashmír induced the Government of Lahore to accept the District of Hazára in exchange for a strip of territory on the southern frontier of Jummoo (Jammu). Lieutenant Abbott, as Political Officer under the Lahore Government, at once effected a settlement of the land tax. The turbulent chieftains had at length found their match in the steady but liberal organization of British officials; and so effectual were the measures adopted by

Lieutenant Abbott, that in 1848 the District could already be described, for the first time perhaps since the Mughal period, as 'perfectly tranquil.' On the outbreak of the disturbances at Múltán (Mooltan), which culminated in the second Síkh war, the troops in garrison rose against Lieutenant Abbott, in unison with their co-religionists in the Punjab; but the Musalmán inhabitants universally threw in their lot with their new rulers, and remained faithful, almost without exception, throughout the struggle. Rough guerilla bands assembled readily to defend the leader whose liberality and consideration they had experienced against the power of their Síkh oppressors. Offering a bold front both to the revolted Síkhs and to their ally, the Amír of Afghánistán, whose threatened march from Attock into Kashmír placed him in great jeopardy, the English officer succeeded in holding his own at the head of his raw Muhammadan levies, until the battle of Gujrát (Goojerat) decided the fate of the campaign. The Afgháns then withdrew, and Hazára passed peaceably under direct British rule. A few unimportant risings upon the frontier have since diversified the local annals, but the District as a whole has enjoyed uninterrupted peace for more than a quarter of a century. In 1857, some disaffected Dhúnds made an ineffectual attempt to seize upon the hill station of Murree (Marri) in Ráwal Pindi, and in 1868 disturbances took place in AGROR and the neighbouring border which resulted in the petty campaign known as the 'Black Mountain Expedition;' but on neither occasion was the general tranquillity disturbed. On the first distribution of the Province, the Murree tract was included in the limits of Hazára, but subsequent arrangements in 1850 transferred it to Ráwal Pindi. In 1854, the headquarters of the District, which had hitherto been placed at Haripur, a town founded by the Síkh Sardár, Hari Sinh, were removed to a new station laid out by Lieutenant Abbott, and called after him, Abbottábád.

Population.—The first Census of Hazára took place on 1st January 1855, and returned the total number of inhabitants at 296,364. A second enumeration, on 10th January 1868, gave a total of 343,929, showing an increase for the thirteen years of 47,565 persons, or 16·04 per cent. These figures do not include the feudal territory of TANAWAL, which, however, formed part of the District for the Census of 1868. That enumeration extended over a total area of 2835 square miles, and disclosed a total population of 367,218, distributed among 1253 villages or townships, and inhabiting 74,174 houses. From these data the following averages may be deduced:—Persons per square mile, 122·41; villages per square mile, 0·42; houses per square mile, 24·72; persons per village, 293; persons per house, 4·95. Classified according to sex, there were—males, 191,423; females, 175,795; proportion of males, 53·75 per cent. Classified according to age, there were, under 12 years—140,036, or 38·13 per cent. As regards religious distinctions,

Hazára is an essentially Musalmán District. The Muhammadans number in all 346,112, or 94·25 per cent.; while the Hindus amount to only 18,563, or 5·06 per cent. The small margin includes 973 Síkhs and 1570 'others,' with percentages of 0·26 and 0·43 respectively. The agricultural population is returned at 267,434, of whom 73,921 are males above 18 years of age. The ethnical division of the population shows the following approximate results:—Muhammadans of pure or partial Afghán descent—Jadúns, 15,711; Swátis, 21,334; 'others,' 16,748: Muhammadans not of Afghán descent—Sayyids, 11,700; Dhúnds, 14,412; Kharáls, 10,734; Awáns, 50,564; Gújars, 54,420: Hindus or Síkhs—Kshattriyas, 12,320; Bráhmans, 3009. The Swátis occupy the Khágán gorge; while the other tribes of Afghán origin inhabit the western frontier of the District. The Dhúnds and Kharáls hold the south-eastern hills, and the Awáns and Gújars are scattered over the whole country, occupying inferior social positions. The Awáns universally follow agriculture, but the Gújars devote themselves to cattle-grazing among the hills, especially in the higher slopes of Khágán. Sayyids are found in all parts of the District, and enjoy a high social position. The Kshattriyás and Bráhmans form a very small proportion of the population, and engage almost entirely in trade. The physique of the Hazára tribes falls decidedly short of that common in the adjoining Districts of Ráwal Pindi and Pesháwar, or among the mountaineers beyond the frontier. The Dhúnds, Kharáls, and Swátis in particular are of small stature and deficient in strength. Under British rule they have proved themselves submissive subjects; but their turbulence under the oppressive Síkh government shows that they can resist by force when necessary. Among their rulers, open violence is rare, fraud and intrigue being the more usual weapons both of attack and of defence. As cultivators, they are remarkable rather for patient industry than for skill or enterprise. The external ritual of Islám is regularly observed even amongst the lowest agriculturists, but its legal precepts yield entirely to local custom. In 1875-76, the District contained 5 municipal towns, with populations as follows:—HARIPUR, 4477; ABBOTTABAD, 1194; BAFFA, 4494; MANSAHRA, 2185; NAUSHAHR, 2168. Total population within municipal limits, 14,518.

Agriculture.—Although no accurate statistics exist with reference to the area under cultivation during the early years of our rule, there is reason to believe that the extent of tillage has increased by 30 per cent. since the date of annexation. In 1869-70, the settlement returns showed the cultivated area as 393,918 acres, or 22·21 per cent. of the whole District. In 1875-76, the cultivable waste amounted to only 35,399 acres; so that agriculture has now almost reached its utmost margin. The principal crops consist of wheat, barley, and oil-seeds for the *rabi* or spring harvest, while maize, rice, pulses, millets, and cotton

During the summer months, detachments of British infantry and sometimes of mountain artillery are stationed at selected posts along the road from Abbottábád to Murree (Marri).

Medical Aspects.—The climate of Hazára is subject to great variations. The southern portion, adjoining the plains, suffers from the heat of summer as greatly as Ráwal Pindi; but at Abbottábád the refreshing mountain breezes mitigate the temperature to a considerable extent. Snow lies upon the hills down to a level of 6000 feet from November to March. The perpetual snow line extends to between 14,000 and 15,000 feet. No record of temperature exists. The annual rainfall varies from 30 inches in the lower valleys to 50 inches or more among the high mountains; the average for the whole District during the eight years ending 1873-74 amounted to 47 inches. Malarious fevers prevail in the spring and autumn, and affections of the respiratory organs in the winter. Stone and goitre are also of common occurrence, the latter disease appearing in the closed mountain glen of Khágán, and other valleys. No trustworthy mortuary returns are available for the District generally. The recorded death-rate of Abbottábád was 22 per 1000 in 1872. Two charitable dispensaries at Haripur and Abbottábád gave relief in 1875 to 16,062 persons, of whom 485 were in-patients.

Hazáribágh.—A British District in the Lieutenant-Governorship of Bengal, lying between 23° 25′ and 24° 48′ N. lat., and between 84° 29′ and 86° 38′ E. long. Area, 7020 square miles; population, according to the Census of 1872, 771,875. Bounded on the north by the Districts of Gayá and Monghyr; on the east by the Santál Parganás and Mánbhúm; on the south by Lohárdaga; and on the west by Lohárdaga and Gayá. The District forms the north-eastern portion of the Chutiá Nágpur Division. The administrative headquarters are at HAZARIBAGH town.

Physical Aspects.—The physical formation of Hazáribágh exhibits three distinct features:—(1) A high central plateau extends from the western boundary of the District, occupying a central position in the western section of it; this plateau measures about 40 miles in length from east to west and 15 miles from north to south, and the height of the headquarters station, Hazáribágh (2000 feet), may be taken as its average elevation; the surface is undulating and cultivated, and many prosperous villages are dotted over this tract: (2) A lower and more extensive plateau, with a general elevation of 1300 feet, occupies the northern and eastern portions of the District; to the north, the land is well cultivated, and hardly a trace exists of rock or jungle; to the east, the country has a much more varied character, the elevation becomes lower, and the character of a plateau is gradually lost: (3) The central valley of the Dámodar river, with the country which is watered by its numerous feeders, occupies the entire southern section of the District; the chief characteristics of this tract are extensive jungle and scattered villages, but exceptions to this general description are found in the well-cultivated Karanpurá valley, and in the rich rice-fields of *parganás* Paláni, Changarhá, and Golá. Indeed, although the characteristic features of Hazáribágh are rock and hill and wide-spreading jungle, fine patches of cultivation are met with in all parts, and the scenery is generally pleasing and often extremely picturesque. The District forms part of the chain of high land—sometimes a range of hills, sometimes a cultivated plateau—which extends across the continent of India, south of the Narbadá (Nerbudda) river on the west, and south of the Són river on the east. This chain has nearly reached its eastern extremity in Hazáribágh District; the rivers here take an easterly course, and the general level of the country begins to fall. The high central plateau has a well-defined face on all sides except towards the west. In this direction it becomes narrow, and gradually descends till the final slope can hardly be traced among the other undulations of the country. Near the western limit, the connection of the plateau with the great continental range referred to above is readily traced. The principal peaks of the plateau are Barágái or Marang Buru (3445 feet above the sea), Jilingá (3057 feet), Chendwár (2816 feet), and Aswa (2463 feet). Detached hills are Lugu (3203 feet), Máhudi (2437 feet); and, in the east of the District, on the boundary of Mánbhúm, the well-known PARASNATH HILL, 4479 feet above the sea, which was for a few years (1864-68) used as a military sanitarium. The most important river of Hazáribágh is the DAMODAR. The District may be said to contain a section of the valley of this river about 90 miles in length. When the Dámodar enters Hazáribágh on the south-west, it has already run 25 miles of its course through Lohárdaga. For a short distance it forms the boundary between the two Districts, and then flows in a generally eastern direction, until it enters Mánbhúm. Its chief feeders in this portion of its course are the Garhi, Haharo, Naikári, Maramarhá, Bherá, Kunar, Khanjo, and Jamuniá. The Dámodar, with its tributaries, drains in this District an area of 2480 square miles; it is everywhere fordable during the dry season. The only other important river of Hazáribágh is the BARAKHAR, which drains an area of 2050 square miles. Although the face of the country is to a large extent covered with jungle, there are no forests containing timber of appreciable commercial value. *Sál* (Shorea robusta) grows abundantly, but is not allowed to attain any height, the young trees being used for house-posts, rafters, masts, etc. The use of the saw is unknown, and it would therefore be useless to allow the trees to grow beyond a size at which the wood can be cut and fashioned by the axe. The forests of the District yield no revenue to Government, but they afford means of subsistence to a considerable number of the poorer classes of

the people during a portion of the year. Amongst the fruits and roots thus eaten are the *mahuá*, *ber*, *bar*, *pípal*, *singárá*, *chehur*, roots of various species of Dioscorea, and many kinds of leaves. The jungle in the less cultivated portions of the District gives shelter to tigers, bears, and panthers; and the *soná chitá* or dog-leopard, distinguished by having non-retractile claws, is occasionally seen. Wolves are very common, and wild dogs hunt in packs on Párasnáth Hill. Several varieties of deer are found in the jungles, and bison are sometimes met with. Amongst the game-birds, which are very plentiful, are jungle-fowl, pea-fowl, several varieties of partridge, duck, teal and quail, snipe, ortolans, plovers, etc.

History.—Local history begins in the middle of the 18th century, when one Mukund Sinh was Rájá of the old estate of Rámgarh (which included the present District of Hazáribágh) and the recognised chief of the country, while his relative, Tej Sinh, was at the head of the local army. They claimed descent from two Rájput brothers, immigrants from Bundelkhand. The former obtained the *zamíndári* of Rámgarh from the Mahárájá of Chutiá Nágpur; but, in 1771, Tej Sinh went to assert his claim to the estate before Captain Camac at Patná. He returned with a European force under Lieutenant Goddard; Mukund Sinh fled after a mere show of resistance, and the Rámgarh estate was made over to Tej Sinh for a tribute of £4000 a year. It does not appear, however, that Lieutenant Goddard took formal possession of the territory thus won, nor did his expedition extend to the north-western portion of the District known as *parganá* Kharakdiha. Six years earlier (1765), Mod Náráyan Deo, the old Hindu Rájá of Kharakdiha, chief of the *ghátwáls* or guardians of the passes, being driven from his estate by the Musalmán *ámil* or revenue agent, Kámdár Khán, had taken refuge with Tej Sinh at Rámgarh, and received a grant of two villages by way of maintenance. Kámdár Khán's rule in Kharakdiha was followed by that of Ikbál Alí Khán, who was expelled in 1774 for tyranny and mismanagement, by a British force under Captain James Brown. The exiled Rájá of Kharakdiha, who had exerted his influence on the British side, was rewarded with a grant of the maintenance lands of the *ráj*. Possibly he might have been completely reinstated in his former position, but in the confusion of Muhammadan misrule, the *ghátwáls* had grown too strong to return to their old allegiance, and demanded and obtained separate settlements. In the *sanads* granted to them by Captain Brown, they are recognised as petty feudal chiefs, holding their lands subject to responsibility for crime committed on their estates. They were bound to produce criminals, and to refund stolen property; they were liable to removal for misconduct; and they undertook to maintain a body of police, and to keep the roads in repair. By 1780, the pacification of the *ghátwáls* was complete, and Captain Brown's military administration had come to an end. Rámgarh estate and Kharakdiha *parganá* then formed part of a British District named Rámgarh, administered by a civilian, who held the offices of Judge, Magistrate, and Collector; while a contingent of Native infantry, known as the Rámgarh Battalion, was stationed at Hazáribágh under the command of a European officer. This District of Rámgarh occupied an area nearly three times as great as that of Hazáribágh at present, stretching up on the north-west to Sherghátí in Gayá, and taking in on the east *parganá* Chakái of Monghyr, and the *zamíndárí ráj* of Pánchet; while on the south-west and south, Palámau was regularly included in the District, and Chutiá Nágpur owed a loose allegiance as a tributary estate administered by its own chief. From 1780 to 1833, the District was governed in general accord with the ordinary Regulations; but in the latter year, in consequence of the great Kol insurrection of 1831-32 (for an account of which see Lohárdaga District), the administrative system was entirely changed. Rámgarh and the Jungle Mahóls with the estate of Dhalbhúm, till then included in Midnapur, were exempted from the operation of the Regulations, and every branch of government within these tracts was vested in an officer appointed by the Supreme Government, styled the Agent to the Governor-General. The *parganás* of Rámgarh, Kharakdihá, Kendi, and Kundá, which compose the present area of the District, became part of the South-Western Frontier Agency, and were formed into a District under the name of Hazáribágh. In 1854, the designation of the Province was changed from South-Western Frontier Agency to Chutiá Nágpur; and it has been administered since that date as a Non-Regulation Province under the Lieutenant-Governor of Bengal, the title of the chief executive officer being at the same time changed from Governor-General's Agent to Commissioner. The revenue, civil, and magisterial jurisdictions of Hazáribágh are now conterminous.

Population.—Several early attempts were made to ascertain the population of Hazáribágh. In 1837, it was estimated at 320,000, but it is not known on what data this calculation was based. The Survey Department, in 1858-63, returned the population at 716,065, showing an average density of 101 persons to the square mile; and a later estimate gave an average density of 106 to the square mile. The first regular Census was taken in 1872. It disclosed a total population of 771,875 persons, inhabiting 6703 villages or townships and 150,493 houses; density of the population, 110 per square mile; number of villages per square mile, 0·95; houses per square mile, 21; persons per house, 5·1. Classified according to sex, there are 397,045 males and 374,830 females; proportion of males in total population, 51·4 per cent.; the

excess of males being due to immigration from the densely peopled Districts of Behar. Classified according to age, there are, under 12 years—males, 163,295; females, 117,291; total, 280,586, or 36·35 per cent. The excessive preponderance of male over female children is here, as elsewhere in India, explained by the fact that natives consider that girls attain womanhood at an earlier age than boys reach manhood, and many girls are thus returned as women. The ethnical division of the people is returned as follows:—Non-Asiatics (almost entirely British), 1362; mixed races, 57; Asiatics (all natives of India), 770,456. Belonging to aboriginal tribes, there are 57,120; semi-Hinduized aborigines number 216,712; Hindus, 421,622; persons of Hindu origin not recognising caste, 2664; and Muhammadans, 72,338. Among the aboriginal tribes of the District, the most numerous are—the Santáls, of whom there are 35,306; the Kols, 7307; the Bhars, 5838; and the Mundás, 5664. *Parganás* Chái and Chámpa of Hazáribágh are supposed to have been one of the earliest settlements of the Santáls, although their true home is now the adjoining District of the Santál Parganás. An account of the wanderings of this tribe and of the customs and habits of its members will be found in Colonel Dalton's *Ethnology of Bengal*, and in the *Annals of Rural Bengal*. In Colonel Dalton's work will also be found a very interesting account of the Kols or Mundás. The curious aboriginal tribe of Bírhors, found in Hazáribágh and Lohárdaga, is deserving of notice. They number only 132 in this District, and live in the jungles or the hillsides in water-tight huts made of branches and leaves. They have hardly any cultivation, and never touch a plough. The men spend their time in snaring hares and monkeys, and also trade in various jungle products. They worship female deities and devils, and it is supposed that they at one time practised cannibalism. Among semi-Hinduized aborigines, the most numerous castes are—the Bhuiyás, 73,894, who occupy the humblest positions; Chamárs, preparers of hides and workers in leather, numbering 26,112; Ghátwáls, 31,134; and Bhogtás, labourers and exorcisers of demons, 20,546. Mention has already been made in the historical section of this article of the Ghátwáls of Rámgarh. They were originally guardians of the hill passes, and are Bhuiyás by descent; but the official title has now become a caste appellation. The wealthier Ghátwáls are considerable landholders in the north-east of Hazáribágh, and claim to be *zamíndárs* under the Permanent Settlement of 1793. Of agricultural castes, the most numerous are the Kurmís (40,538), and the Koerís (27,550); of trading castes, the Baniyás (13,669); and of artisan castes, the Telís or oilmen (29,876). The higher Hindu castes are—Bráhmans, numbering 21,760; Rájputs, 25,023; and Bandáwats, 6264. The most respected clans of Rájputs are the Panwár or Ujjainí, from whom were

drawn the Bhojpuria Sepoys of our Native army; and the Nágbánsí, who are peculiar to Chutiá Nágpur, and are acknowledged as Rájputs of pure blood. The Bandáwats are a cultivating caste, who wear the sacred thread, and claim to be Rájputs. The Hindus, as grouped together on the basis of religion, number 647,991, or 83·9 per cent. of the total population. Of Muhammadans, there are 72,338, or 9·4 per cent.; of Christians, 1573, or 0·2 per cent.; and of persons of other denominations not separately classified, 24,519, or 6·5 per cent. Amongst these last, it is estimated that about 5000 are Jains, who may be divided into two classes—the secular, and the religious. The secular Jains, known as Sráwaks, are confined to the towns of Hazáribágh and Chatrá. Most of them are well-to-do merchants, and occupy a high social position. The religious Jains live at the foot of Párasnáth Hill, and have charge of the temples in the village of Madhuban, where pilgrims halt before ascending the holy hill. Both classes are well-to-do in the world. The population of Hazáribágh is almost entirely rural, there being only 3 municipalities containing more than 5000 souls, namely—HAZARIBAGH, pop. (1872), 11,050; ICHAK, 8999; and CHATRA, 8818. There are 5780 villages containing fewer than 200 inhabitants, and 755 with from 200 to 500. The only place of special interest in the District is PARASNATH HILL, a celebrated place of pilgrimage, which is annually visited by large numbers of Jain worshippers. Minor places of pilgrimage are Kulha Hill and Khháprawa village.

Agriculture.—Rice is the staple crop of the District, and three principal kinds are grown—*borá* or *gorá*, *lahuhan*, and *jarhan*. *Borá* or early rice is sown broadcast after the first fall of rain in June, and reaped about the end of August; it is confined to the southern portion of the District. *Lahuhan* or autumn rice is sown in June, and reaped in September; it is either transplanted or sown broadcast. The winter rice crop (*jarhan*) is also sown in June, transplanted in July or August, and reaped in October and November. From this last crop are derived the finer varieties of rice, the coarser kinds, such as are used by the poor, being usually grown in the *lahuhan* crop. These crops are subdivided into 47 principal varieties. Rice is grown in the swampy ground between the long undulating ridges of which the surface of the District is composed, and on the lower slopes of these ridges. The soil is, in the first instance, brought under cultivation by cutting level terraces out of the hillside, a small bank to hold water being left round the edge of each plot. The hillsides thus present the appearance of a series of steps, varying from 1 to 5 feet in height. When the slopes are too steep for terracing, or the soil too strong for cultivation, the bed of the stream is banked up and made into one long narrow rice-field. The rice-fields thus constructed are divided into four classes,

according to the height of the land and its capacity for remaining moist until the planting-out season. The rich alluvial land, which lies lowest in the depressions between the ridges, is called *gairá;* the rent for this varies from 6s. 8d. to 8s. an acre, and the average yield is 15 cwts. per acre. *Singá* land lies higher up the slope; rent, 5s. 4d. per acre; average produce, 12 cwts. an acre. *Bád* is situated above *singá*, and is the highest land on which rice can be grown at a profit without artificial irrigation; the rent varies from 2s. 8d. to 3s. 4d. per acre, and the produce is estimated at nearly 7 cwts. per acre. *Gaurhá* is rather high rice land, which would, from its position, be classed as *singá*, but which catches the fertilizing drainage of a village, and is therefore assessed as *gairá;* rent and average produce, the same as in the case of *gairá*. A second crop is not grown on rice lands. Among the other crops of the District are wheat of several kinds, barley, Indian corn, the usual pulses and green crops of Bengal, a little jute, flax, aloe, sugar-cane, opium, cotton, *pán*, etc. Out of an area (as ascertained by the Topographical Survey in 1870-73) of 7020 square miles, 2585 square miles are returned as under cultivation, and 4435 square miles as uncultivated. Wages and prices have risen considerably since 1855, the earliest year for which any record of prices exists. In that year, the wages of an agricultural day-labourer were a little more than 1½d. a day; now he earns rather more than 2¼d. Bricklayers' wages have risen from 1⅞d. to 3⅜d. or 4½d. a day; and carpenters who were formerly paid 3d. now get 4½d., or even 6d. a day. Prices of food grains and all kinds of agricultural produce have risen proportionately. In 1855, the price of common rice was 2s. 8d. per cwt.; of best rice, 4s. 9d.; and of wheat, 6s. 10d. per cwt. In 1870, the prices were—for common rice, 4s. 5d.; for best rice, 6s. 1d.; and for wheat, 10s. 11d. per cwt. During the famine of 1866 prices rose to 13s. 8d. per cwt. for common rice, and 19s. 1d. per cwt. for best rice. In the rural parts of the District, the rise and fall of prices is indicated by variations in the size of the *pailá* or measure holding about a *ser* weight of grain. Rice is sold at the uniform rate of 1 pice (⅜d.) per *pailá;* but as the price rises, the size of the *pailá* diminishes. Kamiás or serf-cultivators, who bind themselves to manual service in consideration of a lump sum of money, or until they discharge an existing personal debt, are numerous in Hazáribágh; a detailed account of this interesting class is given in the *Statistical Account of Bengal*, vol. xvi. pp. 111-115.

Natural Calamities.—Hazáribágh is not subject to the usual calamities which affect most of the Districts of Bengal. Blight and flood are unknown, and a general failure of crops would be impossible unless the local rainfall were to fail entirely. The famine of 1866 did not very seriously affect the District, and the great body of cultivators, though a good deal pressed, were never in real danger of

starvation. The prices of rice in 1866 have been given above. A two years' deficiency in the rice crop followed by rainless cold weather might be taken as a warning of distress; and if, further, the early June rain fell short, famine might be expected. In the event of such a calamity occurring, it is doubtful whether the means of communication would be sufficient to meet the emergencies of the case.

Commerce and Trade, etc.—The trade of Hazáribágh is concentrated at Chatrá, the great central market at which the country produce of Lohárdaga District and the Tributary States of Chutiá Nágpur is exchanged for English cloth, salt, tobacco, household utensils, etc. Two smaller markets are held at Tandawá and Mírzáganj villages; and annual fairs are held at Chatrá and Hutru, at which large numbers of cattle are sold. No accurate information exists as to the value of the exports and imports at the present day. An approximate return was made in 1863, according to which the exports were estimated at £215,735, and the imports at £329,420. The principal articles of export were lac (£43,200), metal cooking utensils (£42,000), *ghí* (£22,000), iron (£17,500), and cattle (£12,000); the chief imports—rice (£100,000), salt (£47,500), cattle (£30,500), and tobacco (£22,000). Local trade is carried on by means of weekly markets, and there are very few village shopkeepers. There are about 400 miles of road in Hazáribágh, maintained at an average annual cost of £4400. The eastern portion of the District is traversed by a branch line from the East Indian Railway, 20 miles long—15 miles being used for the conveyance of passengers, and the remainder exclusively for the carriage of coal. The stations are Maheshmunda and Girídí; there are also coal sidings at Karharbári and Srírámpur.

Minerals.—Six coal-fields are known to exist in Hazáribágh District—namely, KARHARBARI, KARANPURA, BOKARO, RAMGARH, ITKHURI, and CHOPE, all of which see separately. The most important of these is Karharbárí, which, it has been estimated, is capable of supplying 250,000 tons a year for 300 years. The coal varies in quality in different parts of the field, the percentage of ash in some specimens being only 4·2 and 4·8, while in others it is as high as 26·5, 34·0, and 39·2. Iron is smelted at many places in the District, and tin is found in Loranga, on the south bank of the Barákhar river. At Báraganda, a village 8 miles west of Loranga, extensive copper mines were formerly worked. It is not known when and by whom these workings were undertaken, nor why they were abandoned. An unsuccessful attempt was made to reopen the mines in 1852. Mica is found at several places in Kharakdiha *parganá;* and antimony mines were worked by Europeans at the end of last century for more than thirteen years at Sídpur, 12 or 14 miles from Chatrá. They were abandoned owing to a disagreement among the partners.

Tea.—In 1877, there were three tea plantations containing mature plants—at SITAGARHA, JHUMRA, and MAHUDI; and a young plantation on Párasnáth Hill promised well. The approximate yield of fine tea on the Sítágarha plantation in 1873 was 98 lbs. an acre, and in 1874, 140 lbs. per acre; on the Máhudí estate in 1872, the approximate yield per acre was 80 lbs. The Párasnáth plantation occupies the most promising site for tea cultivation in the District, consisting of 14 square miles of land lying on the north face of the hill, at an elevation of between 2000 and 3000 feet.

Administration.—Previously to 1835, Hazáribágh, together with Chutiá Nágpur, Palámau, and Pánchet, constituted, as has already been explained, the District of Rámgarh, and no separate returns are available before that date. In 1835, the revenue of Hazáribágh was £8622; in 1850, it had risen to £10,941; and in 1870, to £32,841 (of which, however, £9861 was derived from the income tax, since discontinued). The civil expenditure has risen from £3654 in 1835 to £7034 in 1850, and £31,367 in 1870. The land tax is the most important item of revenue in Hazáribágh, and in 1870-71 formed 34 per cent. of the total revenue of the District. In 1835, it amounted to £4871; in 1850, to £5564; and in 1870, to £11,022. The number of estates in the three years was respectively 86, 140, and 244; so that the average land revenue paid by each estate was, in 1835, £57; in 1850, £40; and in 1870, £45. A peculiar feature of the revenue administration of the District is the exemption of estates from the ordinary process of sale for arrears of revenue. The operation of Regulations xiv. of 1793 and v. of 1812 was suspended for Hazáribágh in 1833, and the *dastak* system of levying arrears was substituted. When an estate falls into arrears, payment is demanded by a written document specifying details; and failing payment, the immovable property of the defaulter is attached, and may be sold. In 1850, the number of magisterial courts in the District was 5, and of civil and revenue courts, 7; in 1870, there were 10 of the former and 9 of the latter. For police purposes, the District is divided into 13 police circles. In 1872, the regular police force numbered 557 men of all ranks, maintained at a total cost of £9846. There was also a municipal force of 65 officers and men, costing £399; and a rural police of 3834 men, maintained at an estimated total cost in money or lands of £5518. The total machinery, therefore, for the protection of person and property consisted in that year of 4456 officers and men, or 1 man to every 1·57 square miles or to every 173 of the population; estimated total cost £15,763, equal to a charge of £2, 4s. 10d. per square mile, or a little more than 4¾d. per head of the population. In the same year (1872), the total number of criminal cases of all kinds was 1970, and the percentage of final convictions to prisoners brought to trial, 57·51. *Dakáití* or gang-robbery has been common in the District for some time, and the number of cases of housebreaking is very great, 230 such cases having been reported in 1870. There are 5 jails in the District. Education has hitherto made little way in Hazáribágh, progress being prevented by the utter indifference of all classes of society. Until 1865, there was no Government school at all; and in 1870-71, the number of Government and aided schools was 8, with 403 pupils. In 1871-72, the number of such schools was 54, and in 1872-73, 86, with, in the former year, 1121, and in the latter, 2183 pupils. The District is divided into 2 Subdivisions, and 47 *parganás* or fiscal divisions. There are only 3 municipalities, which have already been named.

Medical Aspects.—The climate of Hazáribágh is much cooler and more pleasant than that of Lower Bengal during the months of June to September. The average maximum temperature in 1874 was 107°; minimum, 37·5°; mean, 74° F. The average yearly rainfall is 52·4 inches. The climate is reckoned healthy, but rheumatism, fever, and dysentery are not uncommon; cholera is rare. The returns of sickness and mortality among the British troops stationed at Hazáribágh in 1860-69 contrast favourably with the averages of other stations for those years. There are 4 charitable dispensaries in the District.

Hazáribágh.—Headquarters Subdivision of Hazáribágh District, Chutiá Nágpur, lying between 23° 56′ 30″ and 24° 14′ N. lat., and between 85° 11′ and 85° 41′ E. long. Area, 5197 square miles, with 4248 villages or towns, and 109,848 houses. Pop. (1872), 547,776, being Hindus, 464,978, or 84·9 per cent.; Muhammadans, 50,375, or 9·2 per cent.; Christians, 1552, or ·3 per cent.; and 'others,' 30,871; number of males, 281,126—of females, 266,650. Proportion of males in total population, 51·3 per cent.; average density of population, 105 per square mile; villages per square mile, 0·82; persons per village, 129; houses per square mile, 21; persons per house, 4·9. This Subdivision comprises the 10 police circles (*thánás*) of Hazáribágh, Gumiá, Kashmár, Rámgarh, Tandawa, Chatrá, Hunterganj, Barhí, Kodarma, and Bagsdár. In 1870-71, it contained 9 magisterial and revenue courts; a regular police force 368 strong, besides 1236 village watchmen; total cost of administration, £12,335.

Hazáribágh.—Chief town and administrative headquarters of the District of the same name, Chutiá Nágpur, Bengal; picturesquely situated on the high central plateau of the District, at an elevation of 2000 feet above sea level, and in the midst of a group of conical hills. Lat. 23° 59′ 21″ N., long. 85° 24′ 32″ E. The town is little more than a cluster of hamlets, with intervening cultivation, which have sprung up round the military *bázár*. Hazáribágh has been the military headquarters of the District since about 1780, and the seat of civil administration since

1834. Up to that year, the civil headquarters were alternately at Sherghấti and Chatrá. The cantonment lies south-east of the town. The last military force stationed here was the second battalion 22d Regiment; but owing to an outbreak of enteric fever in 1874, which resulted in numerous deaths, the troops have been withdrawn, with the exception of a small detachment, which is chiefly designed to guard against a possible outbreak of the prisoners in the European penitentiary situated here. Pop. (1872), 11,050, being Hindus, 7240; Muhammadans, 3384; Christians, 52; 'others,' 374; number of males, 6312—of females, 4738. In 1876-77, the gross municipal income amounted to £612, and the expenditure to £550; average rate of taxation, 9⅝d. per head of population within municipal limits.

Hazro.—Municipal town in Ráwal Pindi District, Punjab. Lat. 33° 54′ 45″ N., long. 72° 32′ E.; pop. (1868), 7280, consisting of 2960 Hindus, 4215 Muhammadans, and 105 Síkhs. Principal town of the Chach plain, said to have been founded by Házir Khán, an Alizái Afghán. Constantly plundered in former years by marauders from Gandghar and Yusafzái; but now a prosperous commercial centre, with a brisk import trade in English piece-goods, grain, and indigo. Manufacture of snuff for exportation in large quantities. Municipal revenue (1875-76), £893, or 2s. 2¾d. per head of population (7950) within municipal limits.

Hebli.—Town in Dhárwár District, Bombay; 7 miles east of Dhárwár town. Lat. 15° 28′ 50″ N., long. 75° 10′ E.; pop. (1872), 6483. Hebli is situated on rising ground, with an old dilapidated fort in the centre. A weekly market is held here. The land revenue has been alienated by Government.

Heggaddevankot.—*Táluk* in the south-west of Mysore District, Mysore; with headquarters at Sargúr. Area, 652 square miles, of which 73 are cultivated; pop. (1871), 54,829, including 1474 Muhammadans, 956 Jains, and 101 Christians; land revenue (1874-75), exclusive of water rates, £4025, or 1s. 9d. per cultivated acre. A large proportion of the area is covered with forest, the haunt of elephants and other wild animals. State teak forests cover a total area of 150 square miles, and in addition there are two District forests. The soil is fertile, and cultivation is extending.

Heggaddevankot.—Village in Mysore District, Mysore. Lat. 12° 5′ 50″ N., long. 76° 21′ 50″ E.; pop. (1871), 1080. Boasts of mythical antiquity, and was latterly the residence of a local chief.

Hemavati ('*Golden*,' or *Yenne-hole*).—A tributary of the Káveri (Cauvery) river, which flows from north-west to south-east across Hassan District, Mysore, for about 120 miles. In Hindu mythology, it appears as the daughter of Daksha and wife of Iswara or Siva. Its waters are dammed in six places, which supply channels 113 miles in

length and irrigating 6206 acres, with a revenue of £3646. The most recent of the embankments is said to have been built four centuries ago. The largest, which had been repeatedly breached by floods, has been repaired since 1863 at a cost of £27,850, and is now water-tight. At Sakhlespur the Hemavati is crossed by a bridge, formed of four iron lattice girders, each 120 feet long and resting on cylinders, which was completed in 1870, at a cost of £19,462.

Hemtábád.—Village and headquarters of a police station (*thána*) in Dinájpur District, Bengal; situated on the bank of the Kulik river, 26 miles west of Dinájpur town. Lat. 25° 40′ 40″ N., long. 88° 15′ 50″ E.

Henckellganj.—Village in the north of the Jessor Sundarbans, Bengal. Lat. 22° 27′ 30″ N., long. 89° 2′ E. Founded in 1782 or 1783 by Mr. Henckell, then Magistrate of the District, as a part of his scheme for the reclamation of the SUNDARBANS. Now only a petty hamlet with an insignificant trade in grain. Its name has become corrupted into 'Hingalganj,' by which it appears in the Survey maps. CHANDKHALI, another mart established by Mr. Henckell at the same time, has prospered greatly, and is now one of the most thriving marts in the Sundarbans.

Henzada.—A District[1] in Pegu Division, British Burma, lying between 16° 49′ and 18° 30′ N. lat., and between 94° 51′ and 96° 7′ E. long. Area, 4047 square miles; population in 1872, 476,612 persons. Bounded on the north by Prome District; on the east by the Pegu Yoma range; on the south by Rangoon, Thonkhwa, and Bassein Districts; and on the west by the Arakan Yoma range. The headquarters of the District are at HENZADA town, on the right bank of the Irawadi.

Physical Aspects.—Henzada District stretches from north to south in one vast plain, forming the valley of the Irawadi, and is divided by that river into two nearly equal portions. It is bounded on the east by the Hlaing river, running almost parallel to the Irawadi, and by the Pegu Yomas; and on the west by the Arakan Yoma chain. This region has recently been protected from inundation by extensive embankments, so that the whole area, with the exception of a few marshes and patches of sandy soil, is now suitable for rice cultivation. The chief mountains of the District are the Arakan and Pegu Yoma ranges. The greatest elevation of the Arakan Yomas in Henzada, attained in the latitude of Mya-noung, is 4003 feet above sea level; from this point southwards the height rapidly diminishes. Towards the north, the spurs extend down to the Irawadi, one of them ending at AKOUK-TOUNG, in a precipitous cliff 300 feet high. The Pegu Yomas are farther removed from the river. The highest point of the whole chain (2000 feet above the sea) is in this District, in lat. 17° 15′

[1] In April 1878, since this article was written, Henzada was divided into two Districts, named Henzada and Tharawadi.

N., where it branches out into several spurs forming the valleys of the Pegu and Pú-zwondoung rivers. The slopes of both these mountains are precipitous, and the country is densely wooded. Numerous torrents pour down from the two boundary ranges, and unite in the plains to form large streams, which fall into the chief rivers of the District—viz. the Irawadi, Hlaing, and Bassein. The IRAWADI traverses Henzada from north to south, with a general south-south-east course, and is navigable by river steamers at all seasons. The HLAING rises in Prome as the Zay, and enters the District as the Myit-ma-kha a few miles east of the Irawadi, the Engdaing, a low range of hills covered with *eng* forest, lying between them. Its course is nearly parallel to that of the Irawadi; its principal tributaries are the Toung-gnyo, Toung, Meng-hla, Bhíleng, Thúntshay, etc., all tapping a valuable forest country, and in the lower portion of their course flowing through fertile and partly cultivated tracts. Towards the south, the Hlaing and the Irawadi are connected by several creeks. The chief streams on the west carry the drainage of this part of the District into the Irawadi and Bassein. The Tsanda, the Alún, and the Padaw rise in the Arakan Mountains, and unite to form the Pata-sheng, which falls into the Irawadi just below Kyan-kheng; their extreme length is 95 miles. The Ka-gnyeng also rises in the Arakan Yomas, flows south-east for 60 miles, and, after receiving the waters of the Shwe-naing and Tsheng-bún, falls into the Bassein 13 miles from its northern mouth. It irrigates a highly cultivated country, and communicates with the Irawadi by the Thambhya-daing creek. The BASSEIN RIVER is a branch of the Irawadi, which it leaves about 9 miles above Henzada; thence it flows south-west to the sea through Bassein District. The forests in Henzada comprise almost every variety of timber found in Burma. Valuable teak localities are found west of the Irawadi in the north, and to the extreme east beyond the *eng* forest. The other principal timber-trees are—*pyengkado* (Xylia dolabriformis), *pyengma* (Lagerstrœmia reginæ), *eng* (Dipterocarpus sp. tuberculatus et alatus), furnishing a hard wood used for house-building, bridge piles, boat anchors, railway sleepers, boat-building, etc.; *rendaik* (Dalbergia sp.) and *bhan-bhwe* (Careya arborea) are used for carts and plough-poles; *sha* (Acacia catechu) furnishes cutch. The inner bark of a species of Bignonia is used for making ropes. Several trees, *e.g.* Bombax pentandra, B. heterophylla, Sterculia, Odina wodier, etc., yield gums, resins, and varnishing oils. The unauthorized felling of teak has always been strictly prohibited. In 1876, a large area east and west of the Irawadi was set apart as Government reserved forest, in which the felling of several other kinds of trees has been forbidden. Serpentine and soapstone occur almost everywhere together in this District. Petroleum was discovered some years ago near Mya-noung, but the well then sunk has long been abandoned.

Gold is found in the bed of the Irawadi, but in too small quantities to render its extraction worth the labour.

History.—Henzada District formed a portion of the Talaing kingdom of Pegu, annexed to the Burmese empire in 1753 by Aloung-bhúra (Alompra); but it seems never to have had at any period an independent existence. Its towns were occasionally attacked and defended, but the people appear to have taken no special part in any of the wars. In the beginning of the present century, Tharawadi, or the country east of the Irawadi, was assigned to a prince of royal blood, who became notorious as 'Prince Tharawadi.' Clever, liberal, ambitious, but intriguing, cruel, and vindictive, he turned his grant into a nest of robbers, who were thoroughly devoted to him, and of whom he made use in 1837 to dethrone his own brother. During the first Burmese war, no resistance was offered to the British army in this District as it now exists. After the fall of DONABYU, Sir Archibald Campbell continued his advance up the Irawadi, and was met at Tarúh-hmaw by Burmese envoys, with whom he declined entering into negotiations until Prome was reached. Soon after the capture of Rangoon and Bassein during the second Burmese war, Donabyú was again taken; in July 1852, Prome was seized. When the Burmese received intelligence of this event, they immediately abandoned their extensive fortifications at Akouk-toung, and were discovered crossing the river. An attack was at once made by the British; the works at Akouk-toung and several of the 28 guns which they contained were destroyed, and subsequently the Burmese general in command surrendered. The whole of the delta was not, however, entirely cleared of Burmese troops, and many marauders remained who only awaited a favourable opportunity for opening a guerilla war upon the British and their supporters. No attempts were made to occupy Akouk-toung, and the Burmese took advantage of this to rebuild the stockades, but these were stormed by Captain Loch, R.N., with a small force, and captured without the loss of a single man. To prevent any recurrence of this event, a small guard was stationed off Akouk-toung, and directed to patrol the hills regularly. Only a few days after this force was established, Major Gardner (the commander) and a *havildár* were killed, and 6 Sepoys wounded whilst on duty. A detachment was at once despatched from Prome; the enemy were routed, and Akouk-toung occupied. No further serious disturbances occurred on the right bank of the Irawadi in this neighbourhood. In the meanwhile, Bassein and the southern part of Henzada had been in a still more unsettled state. The principal leader of revolt in Henzada was one Myat-htún. (*See* DONABYU TOWN.) In Tharawadi, a man named Gyoung-gyí caused much disorder. He was the hereditary Thúgyí of a circle, and was deposed for refusing to furnish his quota of tax or to supply the produce due from him to the Burmese Government. In 1853, he

refused to obey a summons from Captain Smith, who had been placed in charge by the British, and the Burmese Government now secretly abetted him. 'By dint of terror, inspired by ruthless cruelties to those of his countrymen who accepted service from the British Government, he deterred many from submitting and from supplying information regarding his movements. Their villages were attacked, plundered, and burnt; their wives and children driven off into the mountains, and the men forced to decide between joining him and death.' No sooner was a *myo-úk* appointed by the British Government than Gyoung-gyí killed him, and it was not until the early part of 1855 that we suppressed this evil. Owing to the energetic measures taken by Captain D'Oyley in Prome, and Captain (now Colonel) David Brown in Tharawadi, Gyoung-gyí was so closely pursued, that at last, almost deserted by his followers, he acknowledged himself beaten, and escaped into independent Burmese territory. The defeat of these two leaders, Myat Htún and Gyoung-gyí, and the dispersion of their gangs, together with the firm but conciliatory policy pursued by the civil officers in charge, relieved the whole country, and no serious disturbances have occurred since.

Population, etc.—The changes in the area of the District make it impossible to give any accurate statistics with regard to the increase of population. In 1856, the population of Henzada and Tharawadi, *i.e.* the country to the east of the Irawadi, was returned at 204,747. By 1866, this number had increased to 363,817. In 1872-73, the Thoon-tshay circle from Rangoon was added to Henzada, and in 1875 the great part of Donabyú was transferred to Thonkhwa District. The inhabitants of Henzada District in 1876 numbered 250,330 males and 250,883 females; total, 501,213 persons, or 127 to the square mile. The following table shows the classification of the inhabitants according to race in 1856 and 1876 respectively:—

Population of Henzada District classified according to Race.	1856.	1876.
Burmese,	80,567	412,800
Talaings,	91,101	17,707
Karengs,	26,132	53,926
Shans,	2,927	1,827
Arakanese,	11	...
Khyengs,	1,705	5,100
Yabaing,	702	2,113
Chinese,	156	472
Hindus,	1,308 (Hindus and Muhammadans)	1,042
Muhammadans,		1,129
Other races,	138	5,097
Total,	204,747	501,213

The number of immigrants into the District during the ten years ending 1876 was 90,797. The number of Burmese in the District in 1876 is greatly in excess of Talaings. On the conquest of the lower country by Aloungbhúra (Alompra), every effort was made to destroy the Talaing nationality. After the first Burmese war, many who had assisted the British succumbed under the cruelties exercised upon them by the Burmese. Now it is said that 'scarcely any one of Talaing descent calls himself anything but a Burmese, so completely has the national spirit been extinguished.' Bassein is the only District which contains more Karengs than Henzada. Yabaing are found in no other District of the Pegu Division. The name is descriptive of an occupation rather than a race, the Yabaing or Zabaing being breeders of silkworms in the hill districts. It is probably a Shan word, applied to the first introducers of the silkworm from the east, but its meaning is now lost. The chief occupation of the people of Henzada District is rice cultivation. The number of those returned in 1872 as being actively engaged in agriculture was 160,943, or 33·75 per cent., but of these only 67,980 were males over 20 years of age. A large proportion of the agriculturists are women, who do a great deal of what is generally supposed to be exclusively man's work. The proportion of persons engaged in mechanical arts, manufactures, trade, etc., was 2 per cent.; of those having no ostensible means of livelihood, 41·58 per cent.; the number of Government servants, merchants, professional men, etc., was about 5000. Nearly all the large towns stand on the right bank of the Irawadi; on the left, the extent of the annual inundations and the smaller area of cultivable land prevent the formation of trading towns. The chief towns are:—Henzada, the headquarters of the District, in lat. 17° 58′ N., and long. 95° 32′ E.; the population in 1876 was 15,307: Kyan-kheng, on the Irawadi, just above the mouth of the Pata-sheng, in lat. 18° 19′ N., and long. 95° 1′ 50″ E.; it has a considerable export trade in rice; the population in 1876 was 8761, chiefly Burmese: Mya-noung, once the headquarters of the Pegu Light Infantry, a corps now disbanded; in 1876, the number of inhabitants was 5859: Kanoung, 7 miles below Mya-noung, was founded by Alompra, circa 1753 A.D.; its small population of 3191 persons is mainly composed of Burmese: Za-lwon, a rising town with a court-house of the extra-Assistant Commissioner of Za-lwon township; the population in 1876 was 4784: Meng-gyi, on the left bank of the Irawadi, in lat. 18° 6′ 35″ N., and long. 95° 30′ E., was at one time the headquarters of Tharawadi, now included in Henzada District; the population is 15,770, chiefly engaged in trade. There are more hamlets with less than 200 inhabitants in this District than in any other of the Province. The number of these has increased since the formation of the embankments along the Irawadi.

Agriculture, etc.—Henzada District, situated at the head of the delta of the Irawadi, has always been extensively cultivated with rice, which finds a ready market at Rangoon and Bassein, with which communication is easy by the numerous creeks intersecting the country. Large tracts in the east of Henzada are still liable to be flooded. About ten years after we occupied Pegu, systematic efforts were first made to protect the country from periodical inundation. In 1862-63, small embankments were constructed at (1) Kyan-kheng, (2) Mya-noung, (3) Kan-oung, (4) Henzada, (5) Anouk-bhet, (6) Tham-bo-ta-ra, (7) Dú-ra, (8) Za-lwon. The area of land cultivated behind the Kyan-kheng section has increased since 1867-68 from 1590 to 2350 acres, and there is now no spare land available here. The Mya-noung embankment was made in sections,—in 1864-65, the first section became protective, and the number of acres cultivated rose from 13,044 in 1863-64 to 14,543. The third and last section was finished in 1869-70; and by 1873-74, the total protected area had further increased to 32,504 acres. The Bassein river embankment now protects 519 acres, where before only 427 were cultivated; the Henzada embankment protects 65,750 acres, as compared with the 22,468 acres cultivated before the work was constructed. When the embankments at present proposed are completed, they will consist of—(1) one extending from above Kyan-kheng westward along the Pata-sheng; (2) another stretching along the right bank of the Pata-sheng to the Irawadi down to Lú-daw-tsú, and thence to Magyí-gún and Ut-hpo (Oot-hpo) or Ka-gnyeng; (3) another flanking the Bassein river from Shwe-myeng-deng to its northern mouth in the Irawadi, and down that river to below Za-lwon.

The staple crops of the District are rice, sesamum, cotton, and tobacco. In 1856, there were 126,156 acres under rice, 3854 under garden produce, and 12,007 under miscellaneous crops; total acreage, 142,017. In 1876, there were 320,300 acres of rice land, 14,230 of garden land, and 28,518 acres planted with miscellaneous crops; total area under cultivation, 363,048 acres. The other products are cotton (grown for local use), indigo, oil-seeds, peas and pulses, cocoa and betel nuts, *pán*-vine, etc. Tobacco is grown principally on sand-banks left dry by the falling of the Irawadi; the cheapness of imported Indian tobacco prevents any extensive cultivation of this plant. The average rent of land during the ten years ending 1876 has been about 1 rupee 8 annas (3s.) per acre. The fertility of the soil is greater than in any other part of the Province, the average yield of rice per acre being 2500 lbs.; of indigo, 400 lbs. Cotton yields 230 lbs., and sesamum 560 lbs. per acre. The price of rice, per *maund* of 80 lbs., during the ten years ending 1876, has varied between Rs. 2 (4s.) and Rs. 3. 2 (6s. 3d.); of cotton, between Rs. 4. 14 (9s. 9d.) and Rs. 6 (12s.); of tobacco, between Rs. 7. 5 (14s. 7½d.)

and Rs. 9. 12 (19s. 6d.); of sesamum, between Rs. 3 (6s.) and Rs. 5. 12 (11s. 6d.).

Administration.—On the annexation of Pegu, the present Henzada District was called Sarawa, or Thara-waw, and very shortly afterwards was divided into two Districts, called Henzada and Tharawadi. These were subsequently united under the name Mya-noung, which a few years ago was changed to Henzada, on the headquarters being transferred to that town. In 1873, the Thún-tshay circle of Rangoon District was added; and in 1875, the Donabyú township was taken away. Under Burmese rule, the revenue annually remitted to the Central Government at Ava was £30,127, derived from house family tax, land, fisheries, transit dues, etc. On the British occupation, the transit dues were abolished, and excise tax imposed. In 1855-56, the total revenue amounted to £49,995, from land, capitation, and salt taxes, timber, excise, etc. In 1864-65, the total revenue had increased to £82,951; in 1876-77, to £132,733. In this last year, the local revenue derived from municipal and town taxes, market stall rent, fines, and 5 per cent. cess, amounted to £13,069.

Henzada now includes the three Subdivisions of Henzada, Mya-noung, and Tharawadi; these are divided into 9 townships, each of which is under an extra-Assistant Commissioner; the townships comprise 81 revenue circles. Each township in Henzada and Tharawadi, shortly after the annexation of Pegu, was placed under a Burmese officer called *myo-úk* who possessed judicial and fiscal power. Immediately under him were the *thugyí*, or revenue circle and police officers, whose areas of jurisdiction varied between 3 and 20 square miles. Subordinate to these were the *goung* or officers appointed over every 100 families, who constituted the village constabulary. The Burmese revenue system was to exact a fixed sum annually from the various divisions, and to allow the officials no defined salary, but only the criminal fines and the fees on the administration of justice. Consequently, as a rule, it was the aim of each official to extort as much as possible from the people without arousing discontent, and causing appeals to be made to the Government at Ava. The result of the war was to throw these officials loose upon the country. A local regiment, called the Pegu Light Infantry, was raised, consisting of 588 officers and men, with their headquarters at Mya-noung; in Tharawadi, a local police corps of 546 officers and men was formed by Captain Brown. In two years, the insurrections subsequent on the war were quelled, and gradually the state of the country improved. The people appeared glad to accept the change of rulers, population increased, and the revenue rose in amount, while its incidence per head fell. In 1861, on the formation of the existing Provincial police, the corps of the Pegu Light Infantry was disbanded, and Captain Brown's force was

reduced. In 1876, the police force consisted of 400 men. The District jail at Henzada is in reality only a lock-up, like that at Mya-noung. During the year 1875-76, an average number of 83 prisoners was confined in Henzada, and 67 in Mya-noung jail. At Henzada, £99 was realized by the sale of jail manufactures, and £98 by extra-mural labour. The expenditure was £1059. In Mya-noung, the total cost of the lock-up was £665; the profit on manufactures was £278, leaving a net outlay of £386. As early as 1855, schools were established by the American Baptist Mission, and in 1856 a Kareng Normal School was opened in Henzada. The average daily attendance in the Government cess schools in 1876 was—in Henzada, 52; Mya-noung, 36; and Kyan-kheng, 20. The total number on the rolls of the S. P. G. Mission School was 58, and the average daily attendance, 47. In Henzada there are two schools for Burmese girls, which are aided by the State. The total number of pupils in 1876 was 67, and the average daily attendance 51. In 1876, the Director of Public Instruction reported that in this District indigenous lay education was founded on a permanently sound and steadily broadening basis. Henzada town is a municipality; the municipal revenue in 1876-77 amounted to £4564.

Henzada.—Township in Henzada District, Pegu Division, British Burma. It is situated on the right bank of the Irawadi, and extends westwards to the Arakan Yomas. The country is very fertile, and produces much rice; it is now protected from inundation by the Irawadi and Bassein embankments. The township is divided into 12 circles. Pop. (1876), 73,644; gross revenue, £19,369. The principal town is HENZADA, the headquarters of the District.

Henzada.—Municipal town and headquarters station of Henzada District, Pegu Division, British Burma; lying on the right bank of the Irawadi, here split into several channels by large sandbanks. Lat. 17° 38′ N., long. 95° 32′ E.; pop. (1876), 15,307 (as compared with 14,551 in 1866), of whom about two thirds are Burmese. The town contains court-houses, treasury, police station, post and telegraph offices, etc. In 1876, 2243 patients were treated at the Dispensary, of whom 202 were in-door patients. There are three schools in Henzada, a Kareng normal, a State town school, and one for Burmese, established by the Society for the Propagation of the Gospel. Gross municipal revenue in 1876-77, £4564.

Henzada Anouk-bhet.—Revenue circle on the right bank of the Irawadi, in Henzada District, Pegu Division, British Burma. Its fields, which are partially cultivated, are protected from inundation by embankments. Pop. (1876), 4725; gross revenue, £1042.

Henzada Myoma. — Revenue circle in Henzada District, Pegu Division, British Burma. Pop. (1876), inclusive of Henzada town, 16,886; gross revenue, £1403.

Herát.—The western Province of Afghánistán, forming a separate Governorship under a high officer appointed by the Amír of AFGHANISTAN. Herát consists of the Districts of Ghorian, Sábzawar, Tarah, Bakwa, Kúrak, and Obeh. It is bounded on the north by the Thár Viláyat and Fírozkoti country; east by the Táimúnís and Kandahár; south by Lash Joroen and Seistán; and west by Persia and the Hari Rúd. According to Conolly, it contains 446 villages, eight large canals which feed innumerable smaller ones, 123 water-courses, 2288 ploughs; and it produces 98,000 *kharwars* of wheat, or 49,000,000 lbs. A full description of Herát lies beyond the scope of this work; but the following brief details taken from Colonel C. M. MacGregor's account may be useful.

Ferrier states the following to be the numbers of the male population of Herát capable of bearing arms, — viz. Ghoriáns, 12,000; Sábzawar, 10,000; Farah, 15,000; Bakwa, 4000; Kúrak, 2500; and Obeh, 1500; total, 45,000. And the tribes in alliance with Herát, and obliged to furnish a contingent, are—Hazára Zeidnáts of Kala Nao, 12,000; Táimúrís of Ghor, 8000; Baluchís of Seistán, 5000; total, 25,000;—grand total, 70,000.

Taylor says that the several tribes subordinate to, or in the neighbourhood of Herát, could collectively assemble 47,000 horse and 23,000 foot, thus:—

Takeh Túrkomans, ...	15,000 horse.	15,000 foot.
Sarokh ,, ...	8,000 ,,	...
Salore ,, ...	2,000 ,,	1,000 ,,
Irsalí, Chársanghí, }	500 ,,	500 ,,
Hazáras of Persia, ...	4,000 ,,	...
Jamshidís ,, ...	4,000 ,,	...
Táimúnís ,, ...	4,000 ,,	2,000 ,,
Táimúrís ,, ...	150 ,,	...
Fírozkohís ,, ...	5,000 ,,	...
Berbarí Hazáras, ...	5,000 ,,	5,000 ,,
Total, ...	47,650	23,500

The Túrkomans are Sunnis, and would perhaps prefer to serve the Afgháns rather than the Persians, who are Shiás. But it is questionable how far the Túrkomans are under Herátí influence.

In the time of Yár Muhammad, there were eight battalions of infantry recruited from the tribes he had transported thither, and Mr. Eastwick says that 5 regiments of infantry and 4000 cavalry was the force kept up. These are nearly all stationed at or near Herát town, and live in their own houses. The revenue of Herát Province has been estimated variously from £89,248 (Conolly) to £130,000 (Burnes).

Herát.—Chief town of the Province of the same name in Afghánistán; situated on the right bank of the Hari Rúd river, in a very beautiful and fertile plain. Lat. 34° 22′ N., long. 62° 8′ E.; elevation, 2650 feet. Distance from Kandahár, 369 miles; from Pesháwar *viâ*

Kandahár and Kábul, 881 miles; from both Teheran and Khiva, about 700 miles. The city is rectangular and almost square, the northern and southern sides measuring 1500, and the eastern and western sides about 1600 yards in length. It is protected by walls 25 to 30 feet high, built on earthen ramparts varying from 40 to 60 feet in height; and is surrounded by a deep wet ditch. There are five gates; and from the middle of each face run four main streets, which meet in the centre of the town in a small domed quadrangle. The principal of these streets—commencing in the middle of the south face—is covered in throughout its entire length by a vaulted roof; and many of the smaller streets which branch off from the main ones are built over in the same way, forming low dark tunnels. The houses, which are generally two storeys high, are for the most part substantially built of bricks and mud, and are so constructed that each forms in itself a little citadel, capable of resisting men armed with muskets. The town is abundantly supplied with excellent water, most of the houses having wells or reservoirs of their own; yet Herát is said to possess strong claims to be considered the dirtiest city in the world. There are no drains, and the inhabitants have no notions of cleanliness or sanitation. The principal building is the Jamá Masjíd, situated in the north-east quarter, and built at the end of the 15th century. It occupies an area of 800 yards square; was, when perfect, 465 feet long by 275 feet wide, and had 408 cupolas, 444 pillars, and 6 entrances. It was splendidly adorned with gilding, and with carved and mosaic work of the most elaborate description. To the west of the Jamá Masjíd is the palace of Chárbágh, a mean building, originally the winter residence of the chiefs of Herát, which was occupied by Yákub Khán, while Governor of the Province. A large reservoir of water, called the Haoz-i-Chársú, is situated at the south-east corner of the central quadrangle. The Ark, or citadel, which is 150 yards long from east to west and 50 yards wide, is near the centre of the north face, about 200 yards from the main wall. Connecting it with the wall, and projecting beyond it to the east and west, is the Ark-i-nao, or new citadel, which occupies about 1000 feet in length of the north face. The population of the city has varied greatly from time to time, and no accurate estimate of it has been formed recently. The majority of the inhabitants are Muhammadans of the Shiá sect, but there are besides a number of Hindus and Afgháns; Persians, Tartars, Túrkomans, and Jews are also met in the principal streets. The original inhabitants appear to have been Persians, and to have belonged to the race that spread from Seistán towards the north-east, and formed the ancient Province of Khorasán, of which, until recently, Herát remained the capital. Probably no city in Central Asia has sustained so many sieges, and been so often destroyed and depopulated, as Herát. From the middle of the 12th century, when it fell into the hands of the Túrkomans, 'who committed the most frightful ravages, and left not one stone upon another,' till 1863, when it was finally taken by the Amír of Afghánistán, in whose hands it has since remained, Herát has been the scene of continual strife. The Túrkomans, the Uzbeks, and the Persians have repeatedly besieged and taken the city, only to be in turn driven out of it. The results of the present war (1879) cannot yet be foreseen.

Herumálu.—Village in Coorg, at which a *játra* or festival is annually held during the *Sivarátri*, in connection with a more frequented festival at the neighbouring village of Irpu.

Heshto (*Hasdo*).—River in Koreá Tributary State, Chutiá Nágpur; the largest river in the State. Rising near Sonhát, it flows north and south through Koreá into Biláspur in the Central Provinces. It forms a fine waterfall near Kirwáhí.

High Level Canal.—Main system of the Orissa Canal System.—*See* MAHANADI.

Hijili.—Sea-coast Division of Midnapur District, Bengal; consisting of the tract of land from the mouth of the Rúpnáráyan along the west bank of the Húglí to the northern boundary of Balasor District. Lat. 21° 37′ to 22° 11′ N., long. 87° 27′ 30″ to 88° 1′ 45″ E. The Survey maps of 1849 return the area at 1013·95 square miles. The tract is well watered by navigable rivers and numerous intersecting water-courses; it produces great quantities of rice, and is dotted with plantations of date-trees and other palms. Prior to the abolition of the Government salt monopoly, Hijili was one of the great seats of manufacture in Bengal, and a considerable quantity of salt is now produced by private persons under Government supervision. This industry has, however, fallen off to a great extent of late years, the native article being unable to compete with the cheaper imported Liverpool salt. Upon the Company's assuming the administration of Bengal, Hijili, which then contained the large fiscal divisions (*parganás*) of Tamlúk and Mahishádal, constituted a separate administration of its own. In 1789, these two last-named tracts were transferred to Midnapur; and in 1836, Hijili itself was also annexed to that District, with the exception of three small southern *parganás*, which were added to the Orissa District of Balasor.

Hill Tipperah.—A Native State, adjoining the British District of TIPPERAH, Bengal; lying between 22° 59′ and 24° 31′ N. lat., and between 91° 12′ and 92° 24′ E. long. Approximate area, 3867 square miles; population, according to the Parliamentary Return of 1878, 75,792. Bounded on the north by the Assam District of Sylhet; on the west by the Bengal Districts of Tipperah and Noákhálí; on the south by Noákhálí and Chittagong; and on the east by the

Lushái country and the Chittagong Hill Tracts. The western boundary of the State, where it adjoins the Regulation District of Tipperah, was fixed by arbitration in 1854. The eastern boundary, separating it from the Lushái country and the Chittagong Hill Tracts, is formed, according to the Surveyor-General's map of 1875, by the Lungái river, between the Háichek and Jámpui ranges to its source in Betling Sib peak; the line next runs in an irregular line to the Dolájari peak, and then along the Sardeng range and the Pheni river, till the latter enters Noákhálí District. The capital of the State is AGARTALA, the residence of the Rájá and of the British Political Agent.

Physical Aspects.—As its name implies, the country is hilly. From west to east the ground rises, but neither by a gradual ascent nor by a single sudden elevation. Five or six ranges of hills run parallel, from north to south, at an average distance of about 12 miles from each other. These ranges, and also the valleys between them, increase in height as they approach the east. The hills are covered for the most part with bamboo jungle, while the low ground abounds with trees of various kinds, cane-brakes, and swamps. Along the north-western and southern boundaries of the State lies a narrow strip of lowland, differing in no material respect, as regards soil, agriculture, and population, from those parts of the Districts of Sylhet, Tipperah, and Chittagong, which adjoin it. From the summit of the ranges, the view of the country is striking, but monotonous. The low bamboo-covered hills look at a distance like mere undulations clad with verdure. Here and there, in the spring, a yellow spot marks the place where the bamboos have been cleared away for the purpose of *júm* cultivation; or the smoke of a hamlet may be seen rising above the jungle and low trees. But one view is exactly the same as another. The principal hill ranges, beginning from the east, are the Jámpui (highest peaks, Betling Síb, 3200 feet, and Jámpui, 1860 feet), Sakkankhang (highest peak, Sakkan, 2578 feet), Langtarái (Pheng Puí peak, 1581 feet), and Athárамurá (highest points, Jári-murá, 1500 feet, and Atármurá, 1431 feet) ranges. Betling Síb, the highest point in the State, is the Sorphuel of the old maps. The chief rivers of Hill Tipperah are the GUMTI, Háorá, Khozái, Dulái, Manu, and PHENI, all of which are navigable by boats of about 2 tons during the rainy season only. In the plains the people use boats as almost the sole means of conveyance at this time of the year, and in the hills nearly every family has its dug-out canoe. The heavy forests which cover the whole of the hilly tracts of the State yield an important part of the Rájá's revenues, and might, if properly worked, prove much more lucrative than they are. The forest produce is at present farmed, but, for want of accurate knowledge as to what the farms are capable of yielding, they are let out in almost all cases at absurdly low rates. The forest dues, which include cesses for felling and gathering bamboos, canes, reeds, etc., were leased in 1872 for £2228, and the estimated gross annual value of tolls on timber and other forest produce exported was £3000. Most of the timber floated down the rivers during the rains is used for boat-building, for which it is excellently suited. The forests give shelter to numbers of wild elephants; amongst other large game, the bison, rhinoceros, tiger, leopard, and bear are found, and deer of several kinds are common. Of small game, hares, pheasants, partridges, jungle-fowl, pigeons, snipe, and quail are met with; and the number and variety of singing birds and birds of beautiful plumage are very great. The python, cobra, and bamboo snake are all common; the Lusháis kill the boa-constrictor for food. The revenue obtained by the Rájá in 1874-75 from the capture of elephants within his territory was £2400.

History.—The name Tipperah, a corruption of Trípura, was probably given to the country in honour of the temple at Udáipur, of which remains still exist, and which ranks as the second *tírthá*, or sacred shrine, in this part of Bengal. It was dedicated either to Tripuradana, the 'sun-god,' or to Trípureswari, the 'mistress of the three worlds.' The history of the State comprehends two distinct epochs—the traditional period described in the *Rájmálá*, or 'Chronicles of the Kings of Tipperah;' and the period since 1407 A.D., to the record of which both the *Rájmálá* and the writings of Muhammadan historians have contributed. The *Rájmálá* is a history in Bengálí verse, compiled by the Bráhmans of the Court of Trípura, and is said to be the oldest specimen of Bengálí composition extant. The Rájá of Hill Tipperah claims descent from Drujho, son of Jogati, one of the Lunar race of kings; and the chronicle traces his descent with the usual elaboration. The chief points of interest revealed in the early history of the State are, that the Rájás were in a state of chronic feud with all the neighbouring countries except Cáchár, and that Sívaism took early root and spread rapidly throughout the country. The worship of the All-destroyer was here, as elsewhere in India, associated with the practice of human sacrifice. Tipperah became one of the greatest strongholds of this worship, and in no part of India were more victims offered up. It is said that till the reign of Dharmá Mánik (A.D. 1407-1439), the number of victims was 1000 a year; but Dharmá ruled that human sacrifices should only be offered triennially. This Dharmá Mánik appears to have been an enlightened prince; and it was under his patronage that the first part of the *Rájmálá* was composed. It is impossible to define the limits at any given period of the ancient kingdom of Tipperah; but at various times its rule extended from the Sundarbans in the west to Burma in the east, and north as far as Kámrúp. The military prestige of the Tipperah Rájás was at its height during the

16th century, when Rájá Srí Dhyán invaded with success the countries on every side of his native kingdom. Early in that century (1512), the Tipperah general conquered Chittagong, and defeated the Gaur troops who defended it. A strong Mughal force sent from Bengal into the Rájá's territory was compelled to retreat, and a second expedition was not more successful; and it was not until the beginning of the 17th century that the Mughals obtained any footing in the country. About 1620 A.D., however, in the reign of Jahángír, a Mughal force under Nawáb Fateh Jang invaded Tipperah, ostensibly with the object of procuring horses and elephants. The capital (Udáipur) was taken, and the Rájá sent prisoner to Delhi. He was offered his throne again on condition of paying tribute, but refused. Meanwhile, the Mughal troops continued to occupy the country in military fashion, until, after two and a half years, they were compelled by an epidemic to retire. The Delhi Emperor reiterated his demand for tribute when Kalián Mánik was raised to the throne in 1625, and attempted to enforce his claim through the Nawáb of Bengal, who again invaded the country, but was defeated. Subsequently, by dint of constant invasions and intrigues, the Muhammadans gradually established themselves in Tipperah. They appear, however, only to have occupied the lowlands, while the hilly tracts remained in the possession of the Rájá, but subject to the control of, and tributary to, the Nawáb. When the East India Company obtained the *diwání* of Bengal in 1765, so much of Tipperah as had been placed on the rent-roll came under British rule. (*See* TIPPERAH DISTRICT.) The English placed a Rájá on the *gadí* of the State; and since 1808, each successive ruler has received investiture from our Government, and has been required to pay the usual *nazar* or fine on accession. From 1826 to 1862, our eastern frontier was constantly disturbed by Kukí raids, in which villages were burned and plundered, and the peaceful inhabitants massacred. What went on in Hill Tipperah no one knew; but vague rumours reached the British authorities of attacks on the Rájá's villages by the wild Kukís, and of attacks on the Kukí tribes by the Rájá's people. An account of the Lushái (Kukí) raids of 1860 and 1870, and of the means taken to punish the offenders, will be found in the articles on the CHITTAGONG HILL TRACTS and TIPPERAH DISTRICT. The Sepoys of the 34th Native Infantry, who mutinied at CHITTAGONG TOWN on the night of the 18th November 1857, after plundering the treasury, marched to Agartalá, the capital of Hill Tipperah. The small military force at the Rájá's disposal did not enable him to oppose the collective body of Sepoys, but orders were issued for the arrest and delivery to the British authorities of all mutineers found wandering within the limits of Hill Tipperah. The State has a chronological era of its own, adopted by Rájá Bir-ráj, from whom the present Rájá is 92d in descent. Bir-ráj is said to have extended his conquests across the Ganges; and, in commemoration of that event, to have established a new era dating from his victory. The year 1875 corresponded with 1285 of the Tipperah era.

Political Constitution, etc.—Both as regards its constitution and its relations to the British Government, the State of Hill Tipperah differs alike from the Independent Native States of India and from those which are tributary and dependent. Besides being the ruler of Hill Tipperah, the Rájá also holds a large *zamíndárí* called *chaklá* Roshnábád, situated in the plains of the Regulation District of Tipperah. This estate, which covers 589 square miles, is by far the most valuable portion of the Rájá's possessions, and yields a larger revenue than the whole of his kingdom of Hill Tipperah. It is held to form with the State an indivisible *ráj*; and consequently, whenever the succession is disputed, the question is decided by the British Courts of Law, whose judgment with regard to the *zamíndárí* has hitherto been always accepted as deciding also the right to the throne. Disputes as to the right of succession have occurred on the occasion of almost every vacancy in the *ráj*, producing disturbances and domestic wars, and exposing the inhabitants of the hills to serious disorders and to attacks from Kukís, who are always called in as auxiliaries by one or other of the contending parties. The cause of these disputes is the rule of succession, the origin of which is lost in obscurity. The rule itself is thus described:—'A reigning Rájá has the power of nominating any male member of the royal family, within certain limits, as his successor, under the title of Jubaráj; and also a successor to the Jubaráj, under the title of Bará Thákur. On the Rájá's death, the Jubaráj becomes Rájá, and the Bará Thákur becomes Jubaráj, the latter in his turn succeeding as Rájá even to the exclusion of the Rájá's natural heirs. It is, however, open to the reigning Rájá to appoint his natural heirs to these dignities when unappropriated; and when no appointments have been made, the eldest son succeeds as a matter of course. Thus a Jubaráj, who becomes Rájá, has no power to pass over the Bará Thákur appointed by his predecessor. That Bará Thákur becomes Jubaráj, and subsequently, if he lives, Rájá. The reigning Rájá, however, has the option of appointing a successor to the new Jubaráj, whom he (the Jubaráj) in his turn cannot set aside.' The form of Government is despotic and patriarchal. The Rájá's word is law and final, and his permission is required in numberless contingencies, great and small. The pay of the officials is merely nominal. Most, if not all, of them are connected with the Rájá by marriage, or otherwise. Certain offices are hereditary; 'and the spectacle may sometimes be seen, of a boy of twelve with more real power for good or evil over his little department than a Commissioner has over his

is merely a moderate-sized village, situated on the north bank of the Haurá, about 30 miles from Comillah (Kumillá), the chief town of Tipperah District. The population of Agartalá was reported in 1864 to be 875; since that date it is known to have largely increased, but no later figures are available. The administration of the State is conducted from Agartalá; and at the villages of KAILASHAR and UDAIPUR (*qq.v.*) officers are posted having jurisdiction over certain fixed portions of the State, known as the Subdivisions of Kailáshar and Udáipur. Old Agartalá, 4 miles east of the present capital, and until 1844 the residence of the Rájás, contains several monuments to the memory of former rulers; and a small but very sacred temple, in which are kept fourteen heads of brass, supposed to represent the tutelary gods of the Tipperahs. Old Udáipur, on the Gumtí, the ancient capital of Udái Mánik, who reigned over the State in the latter half of the 16th century, also contains several interesting ruins, which are, however, rapidly becoming overgrown with jungle.

Agriculture.—The principal crop and main food staple is rice, of which 14 kinds are cultivated in the plains, and 8 kinds in the hills. Plough cultivation is limited to a narrow strip of land lying along the boundary which divides the State from the adjoining British Districts, and to patches of land in the interior. All the hill tribes cultivate on the *júm* system, a description of which will be found in the article on the CHITTAGONG HILL TRACTS. The crops grown on the *júms* are rice, cotton, chillies, and vegetables; the Manipurís inhabiting the low lands under the hills raise a little tobacco for their own use. Tea is not cultivated anywhere, though the plant is said to be indigenous to some parts of the hills. The portion of the State under cultivation forms a very small proportion of the total area. Within recent years the rate of wages has much increased. Agricultural labourers, who a few years ago earned 3d. a day, now receive 4½d.; smiths and carpenters, who formerly received from 4½d. to 6d., now get 7½d. or 8d. a day. The average price of common rice during the ten years ending 1873 was 4s. 6d. per cwt.; the highest price reached during the famine of 1866 was 12s. 3d. The rent paid for rice lands varies from 1s. 3d. to 8s. 9d. per acre, according to the position of the land.

Commerce and Trade, etc.—The principal exports of the State are cotton, timber, *tíl*, bamboo, canes, thatching-grass, and firewood. The food crops are scarcely more than sufficient for local wants, and the export is very small. Occasionally, indeed, small imports are required from the neighbouring Districts of Tipperah, Sylhet, and Chittagong. The right to levy a fixed amount of duty on cotton and on forest produce is leased out annually; the amount of cotton exported in 1874-75 was estimated at 1324 tons. There are 21 markets, five held at places in the hills, and all frequented by hill

Division.' In 1871, an English officer was first appointed as Political Agent to protect British interests and advise with the Rájá; and in 1873, a native Deputy-Collector from Bengal was appointed *díwán* under the Rájá, and has done much to improve the administration of the State. There is no treaty between the British Government and the ruler of Hill Tipperah; but the Rájás pay a fine or succession duty to the Government.

Population.—No regular Census has yet been taken in this State, but the manner in which part of the revenue of the hills is assessed enables an estimate to be made yearly. A rough calculation thus made in 1872 showed a total of 34,500 persons, consisting of 14,500 Bengális (chiefly Muhammadans) and Manipurís, and 20,000 hill tribes. According to a probably much more accurate estimate, made in 1874-75, the total population in that year was 74,242,—namely, hill population, 47,523; and population of the plains, 26,719. The Parliamentary Return published in 1878 shows a population of 75,792. This estimate was partly based on a Census taken in 1876-77. The most important hill tribe is that of the Tipperahs, who were in 1874-75 estimated to number 34,727 persons. They are divided into 4 classes—the pure Tipperahs, 27,148 in number, the class to which the reigning family belongs; the Jámáityás, or fighting caste, of whom there are 3000; the Nowattiás, 2144; and the Riangs, 2435. Except the Jámáityás, each of these classes is subdivided into several castes. They are all of the same religion, and speak the same language, differing only in minor local peculiarities. Their divinities are the gods of fire and water, of the forest and the earth; and sacrifices form an important part of their religion—buffaloes, pigs, goats, and fowls being the animals ordinarily used for the purpose. At the present day, they are showing some symptoms of a tendency to conform in many respects to the religious observances of the Hindus, especially with regard to caste. They are superstitious and timid, but capable of committing great cruelties when their passions are roused. The Political Agent, writing in 1873 of the Tipperahs, thus describes the result of their contact with the Bengális:—'The people were very simple, truthful, and honest, until corrupted by the evil influences arising from closer intercourse with the inhabitants of the plains, and also by bad government. . . . Every advantage was taken of their ignorance and credulity, till at length they perceived this themselves, and they now no longer hesitate to meet deceit with its own weapons.' An account of the interesting and peculiar social customs of this tribe, given by Captain Lewin in his work on the *Hill Tracts of Chittagong*, is quoted in the *Statistical Account of Bengal*, vol. vi. pp. 482-488. There are no towns in Hill Tipperah. AGARTALA (*q.v.*), the capital of the State and residence of the Rájá, is merely a moderate-sized village, situated on the north bank of the Haurá, about 30 miles from Comillah (Kumillá), the chief town of Tipperah District. The population of Agartalá was reported in 1864 to be 875; since that date it is known to have largely increased, but no later figures are available. The administration of the State is conducted from Agartalá; and at the villages of KAILASHAR and UDAIPUR (*qq.v.*) officers are posted having jurisdiction over certain fixed portions of the State, known as the Subdivisions of Kailáshar and Udáipur. Old Agartalá, 4 miles east of the present capital, and until 1844 the residence of the Rájás, contains several monuments to the memory of former rulers; and a small but very sacred temple, in which are kept fourteen heads of brass, supposed to represent the tutelary gods of the Tipperahs. Old Udáipur, on the Gumtí, the ancient capital of Udái Mánik, who reigned over the State in the latter half of the 16th century, also contains several interesting ruins, which are, however, rapidly becoming overgrown with jungle.

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tribes. The only manufacture is cloth of the coarsest quality. There are no roads.

Administration.—The Political Constitution of the State has been already described. The most important sources of royal revenue are—(1) the rent of lands in the plains of Hill Tipperah; (2) a family tax in the hills; (3) duties on cotton, forest products, and *til;* and (4) the sale of elephants captured in the Rájá's territory. The revenue from the first of these sources in 1874-75 was £3878; the family tax yielded £2421; duties on exports, £8788; and the royalty on elephants captured, £2400. The total revenue derived from Hill Tipperah in that year was £18,693. Besides this, the Rájá's private estates in the Districts of Tipperah and Sylhet yield about £50,000 and £1406 respectively. His total annual income, therefore, is about £70,000. Until 1873, the administration of justice in Hill Tipperah was very defective, there being no regular procedure and no supervision by the higher courts over the lower. In that year, however, a few simple enactments were passed. The police force in 1874-75 consisted of 102 men of all ranks, and the Rájá maintains a military force of 277 officers and men. The number of criminal cases instituted in 1874-75 was 489, of which 269 were dismissed or compromised. There is a jail at Agartalá; the average daily number of prisoners in 1874-75 was 5½. The State has only 2 schools; and out of an estimated population of more than 74,000, only 103 boys are being educated in the Rájá's territory. No steps have ever been taken to introduce any system of education among the hill people, and they appear to have no desire for such innovations.

Medical Aspects.—The climate of Hill Tipperah is said to be generally pleasant. The annual rainfall is about 60 inches. The chief endemic diseases are bowel complaints, remittent and intermittent fevers, and rheumatism; the principal epidemic is cholera. There is a hospital at Agartalá, and a dispensary at Kailáshar.

Hilsá.—Town and headquarters of a police circle (*thánd*) in Patná District, Bengal. Lat. 25° 19′ 10″ N., long. 85° 19′ 31″ E. Large market village, carrying on a brisk trade in food grains and oil-seeds with Patná, Gayá, and Hazáribágh.

Himálaya Mountains.—The Himálayas, literally, 'The Abode of Snow,' from the Sanskrit *hima*, frost (Latin *hiems*, winter), and *álaya*, dwelling-place, comprise a system of stupendous ranges, with the loftiest peaks in the world. They are (among other names) the *Emodus* of Ptolemy, and extend continuously, in shape something like a scimitar with its blade facing south, for a distance of 1500 miles along the northern frontier of India, from the gorge where the Dihong (the connecting link between the Tsanpu of Thibet and the Brahmaputra of Hindustan) bursts through their main axis, to where the Indus, having reached its northernmost latitude, turns and pierces through the same mountains to enter on its

southerly course towards the Arabian Sea. It is clear, however, even from the imperfect indications which we possess of this great range in its eastern extremity, that the true axis can be traced for some little distance eastward of the Dihong. The Eastern Himálayas eventually merge in the mountain system which runs southward into Burma. Their western ranges have been supposed by some to curve round and extend into the basin of the Kábul river in Afghánistán. But with this quasi-prolongation of the mountain chain we are not concerned, its true connection with the main mass being as yet a matter of extreme uncertainty. The Himálayas form one of the chief ranges of Asia, and with the Kuen Luen converge towards the Pamir tableland, that mountainous knot whence the Tian-shan and the Hindu Kush also radiate. With the Kuen Luen the Himálayas have a closer connection, as these two mighty ranges form respectively the northern and southern escarpment of the lofty Thibetan plateau. Owing, however, to the plentiful rainfall on the southern slopes of the Himálayas, to which the rain-clouds are swept direct from the sea, the river system formed thereby is incomparably more extensive and plentiful than that of the Kuen Luen range. This may account for the serrated character of the Himálayas as contrasted with the sheer wall-like face of the Kuen Luen. A similar feature may be observed in the gorges and indented nature of the Suláimán chain, which buttresses the Iranian plateau on the western frontier of India; while the analogy is carried still further by the Suláimán being characterised by a triple series of ranges, two of which are pierced by streams rising on the watershed of the inmost range (just as in the case of the Indus, Sutlej, and Brahmaputra); and, lastly, by the fact of the Himálayas and Suláimán belonging to approximately the same geological age, both, as is proved by their structure, being of comparatively recent (middle and later tertiary) date.

A more striking analogy exists between the Himálayas and the Andes. This analogy was first perceived by Warren Hastings, and reference is made to it by him in his instructions to his envoy, Mr. George Bogle. The Andes and the Himálayas alike consist of three parallel chains. The Cuesta of La Raya, separating the valley of the Vilcamayu from the basin of Titicaca, is the counterpart of the Mariam-la saddle dividing the Sutlej and Brahmaputra basins. In both systems numerous streams rise in the central cordillera, and, after lateral courses between the two, eventually force their way through the outer chain. The Southern Himálaya bears a close analogy to the outer Andes rising from the valley of the Amazon. Both have a low range at their feet enclosing valleys or *dúns;* both have deep gorges separated by lofty ridges, which are spurs from a main chain of culminating snowy peaks; and in both, the rivers which rise in the inner central range force their way through profound ravines between

the culminating summits. In both Peru and Thibet, too, the staple produce is wool, which is carried across the huge mountainous barrier bounding either country, by llamas and sheep respectively.

The Himálayan system has formed the subject of many treatises, in which attempts have been made to explain the physical structure of the whole mountainous mass. Foremost among these may be mentioned the writings of Captain Herbert, Mr. B. H. Hodgson, Major Cunningham, Captain Henry Strachey, Dr. T. Thomson, Dr. J. D. Hooker, Mr. Drew, Mr. Clements Markham, and Baron von Richthofen. The earliest of these authorities, however, laboured under the disadvantage of having at their disposal but scanty data for generalization; and although, even at present, the Himálayas are most imperfectly known, our knowledge of them has been greatly extended of late years, particularly by the Indian native explorers at detached points in the eastern half, and by the more exhaustive labours of topographical and geological surveyors in the north-western portion.

The most comprehensive view of this system represents it as composed of three culminating chains, to which the names of Northern, Central, and Southern are conveniently applied. The Northern chain is naturally divided into a western and an eastern section, the western being known as the Karakoram or Muztagh, and forming, speaking broadly, the water-parting (though not a completely uninterrupted one) between the basins of Lob-Nor and the Indus. It is the circumstance of the culminating chain not being wholly coincident with the line of water-parting which led the late Mr. Shaw, with much force, to plead for the substitution of the appellation of Muztagh to that of Karakoram for this portion of the Northern range. The KARAKORAM PASS (see *ibid.*) is undoubtedly a point on the real line of water-parting; and the streams north of it join the Tarim basin, while those on its southern slope discharge into the Indus. But the true culminating range lies south of it, and is pierced by the last-named tributaries. It is this, combined with the singular applicability of the name Muztagh, 'Ice Mountain,' to a line of mountains which is crowned by the most stupendous glaciers of the world, outside the Arctic regions, which lends reason to Mr. Shaw's proposal. The peaks along this section of the Himálayas frequently attain a height of 25,000 feet, and the chief one (which is as yet unnamed, but is distinguished by the sign 'K 2' in the records of the Great Trigonometrical Survey) is 28,265 feet high, being second in altitude to Mount Everest. The best known passes across this section of the range, which may be said broadly to extend from its junction with the Hindu Kush near the Baroghil Pass to Mount Kailas near Lake Manasarowar in Thibet, are the Karakoram and the Changchenmo, exceeding 18,000 and 19,000 feet respectively in height. But besides these, there are a variety of minor passes, such as the Karambar, the

Muztagh, and especially a pass on the road between Rudok and Kiria, which deserve fuller examination. The southern slopes of the Muztagh range in its northern portion are clothed with enormous glaciers, one of which, sketched by Colonel Godwin Austen (whose remarkable surveys in these regions have formed the basis of our topographical knowledge), attained the length of 35 miles. From these glaciers issue streams, which, flowing south between bare craggy mountains, join the Indus or its trubutary the Shayok. The collective name applied to the various Districts which comprise the valleys of the Indus, Basha, Braldu, Shigar, Shayok, etc., is Baltistan. The inhabitants are Muhammadanized Thibetans of Turanian stock, with the exception of a small section which are Dards. The northern face of the Muztagh range is but little known.

As regards the southern portion of this section of the Northern range, our information is extremely scanty. Between the Changchenmo Pass and Mount Káilas, it has been crossed at rare intervals by the native explorers of the Indian Survey; but anything like a complete survey is an impossibility, owing to the jealousy and exclusive character of the Thibeto-Chinese policy. Its southern slopes give birth to the rivers Indus and Sutlej, which both break through the central and southern ranges in their course towards the sea.

To the east of Lake Manasarowar a saddle, surmounted by the Mariam-la Pass, connects the Northern and Central ranges. On its eastern side rises the Tsanpu or Brahmaputra, of which the Northern range forms the northern watershed as far as to the south of the Sky-Lake (*Tengri-Nur* in Mongolian, and *Nam-Cho* in Thibetan). Hence it appears to curve round the lake in a north-easterly direction for 150 miles, after which its further course is unknown. This eastern section of the range is called Ninjin-thangla or Nyenchhen-tangla by the native explorer and Mr. Brian Hodgson respectively; Baron von Richthofen, on the other hand, has named it Tang-la, and detaches it from the Himálayas, treating it instead as a portion of the Chinese (*Sinisches*) system. The existence of this entire portion of the Northern range has been clearly demonstrated by the journeys of Pundit Nain Sinh, and of the young Thibetan explorer who discovered Lake Tengri-Nur in 1872. The northern watershed drains into a system of inland lakes, which appear to constitute a connected chain, and which there is reason to believe has its outlet in either the Salwín or Mekong river. The southern face is the northern watershed of the Tsanpu or Brahmaputra.

Between the Northern and Central ranges, there runs an important though subsidiary chain from Mount Káilas near Lake Manasarowar to the junction of the Indus and the Shayok. According to Cunningham, who calls it the Káilas or Gangri range, this chain is 550 miles in length. Its peaks average between 16,000 and 20,000 feet in height;

and it is crossed in its northern portion by a number of passes, which lead from the valley of the Indus into that of the Shayok. About 33° 12′ N. lat., it is pierced by the Indus itself, which deviates at right angles and cuts right through this granite range to resume a north-westerly course beyond. The southern portion of this range lies in Thibetan territory, and is but little known, but it has been crossed at four points by native explorers.

We now turn our attention to the Central chain, which, according to our present knowledge, appears in its eastern portion to coincide pretty closely with the zone of 'central gneiss,' the geological main axis of the Himálaya. This great range has its commencement in the conspicuous peak Nanga Parbat, 'Naked Mountain,' 26,629 feet high, which towers conspicuously on the extreme verge of the Kashmírian frontier, above the Indus valley, not far from the place where the river enters upon its course through a belt of independent territory, before rejoining the British frontier above Darband. This lofty mountain has been seen by General Cunningham from Rámnagar in the Punjab, a distance of 205 miles. Tracing the Central chain from this point towards the south-east, we find that for the first 50 or 60 miles the chain, which here forms the water-parting between the Indus and the Jhelum, is not of such a height as to bear perpetual snow or give origin to glaciers. Two frequented roads, joining the Kishanganga and Astor rivers, go over passes of upwards of 13,000 feet, and others lead into the Dras valley. At the point where the Dras Pass (11,300 feet) affords access from the Kashmír valley to the high tableland of Ladakh, a minor range branches off and separates successively the Sind valley, the northern part of the vale of Kashmír, and the Jhelum valley, on the south, from the Kishanganga on the north. A little south of the same pass, another ridge branches off, and, running north and south, forms the eastern boundary of the vale, till near Banihal it joins itself to the Pir Panjal range, which in its turn runs east and west for about 30 miles, then turns north-north-west and continues for some 40 miles more till it dies off towards the valley of the Jhelum. This range completes the mountainous girdle which encircles the valley of Kashmír.

To return to the Central range itself. About the vicinity of the Dras Pass, the mountain range increases in height, and the peaks are high enough to form glaciers; two of them, Nun and Kun, each over 23,000 feet in height, being especially conspicuous. The north-eastern slope of the range drains into the Indus, the Suru and Zanskar being the chief rivers. The latter flows through a peculiarly inaccessible district called by the same name as its chief river. The shape of the valley is roughly that of a capital T, the upper portion of which runs parallel to the main axis of the range. A little farther to the south, the Bara Lacha Pass (16,200 feet) affords a route from Lahal and Kángra to Leh.

Proceeding farther to the south-east, we find the Central range broken by the gloomy precipitous gorge of the Sutlej (the classic Hesudrus), which, rising in the holy lakes of Rakas Tal and Manasarowar, on the southern side of the Thibetan Káilas, takes a north-westerly course for 280 miles, till, swelled by the waters of the Spiti river, it turns and cleaves through the two outer ranges, emerging on the plains of India at Ropar, after a course of 560 miles. The junction of the Sutlej and Spiti rivers is marked by a magnificent peak 22,183 feet high, entitled Lio Porgyul, which rises sheer from the edge of the two streams 13,000 feet below its summit. Farther to the south-east there are numerous passes leading from British territory over the Central range into Hundes, among which the Niti Pass (16,676 feet) claims notice, as the route leading across it to Khotan, by way of Totling, Gartokh, Rudokh, Noh, and Kiria, is the best and easiest route between Eastern Turkestán and India.

Eastward, our knowledge of the Central range is very fragmentary, as it lies wholly beyond our frontier, and the interval is occupied by the Native States of Nepál, Sikkim, and Bhután. On its northern side the range is clothed with enormous glaciers, which drain into the Tsanpu river; while its southern slopes give rise to many large rivers, which, bursting through the Southern chain, eventually discharge their waters into the Ganges or Brahmaputra. Foremost among these is the Ganges itself, the source of which was determined by Captain Raper and Lieutenant Webb's Survey to lie a few miles beyond Gangotri. Next should be mentioned the Káli, Karnáli, Náráyani, Burí Gandak, Tirsuli Gandak, Bhutia Kosi, and Arun, all of which flow through Nepál—possibly some of the tributaries of the Monas in Bhután, which would appear to be called Lhobra-chu in its upper course, and the Sikung Sanpo, which there is good reason to identify with the Subansiri. To the east of the Mariam-la Pass, only three Englishmen have ever crossed the Central range,—viz. Messrs. Bogle, Turner, and Manning,—and all of these crossed at the same point, where the Parnam-chu, which rises in two lakes situated between the two southern ranges, pierces through the Central range to join the Brahmaputra. Five of the native explorers are also known to have crossed the same range at different points—viz. Lagung-la, Dong-la, No-la, Fotu-la, and Karkang. From the Central range many lofty saddles branch forth, in some places forming inland lakes, in others directing the course of rivers either to the Tsanpu or through the gorges of the Southern range. An imposing view of the long line of glaciers and peaks of the Central range was obtained by Dr. Hooker from the Dankia La Pass in Sikkim. Two of the most remarkable of the inland lakes referred to are the Palti and Chomto-dong lakes. The former (14,700 feet above the sea) is about 20 miles long and 16 broad, without an outlet. This lake is situated

north of the Arun basin, and, like the Palti Lake, is encircled by spurs from the Central range. The Palti or Yamdok-cho Lake is ring-shaped, and has appeared on all maps since D'Anville's time. It is supposed to be about 45 miles in circumference; the island in the centre rises into rounded hills from 2000 to 3000 feet high. The lake is said by all authorities to have no outlet; and both Mr. Manning and Klaproth (who accumulated much information respecting it) state that the waters are very bad; but the *Pandit*, on the other hand, asserts that the waters were perfectly fresh. Eastward of this lake, and about the 92d meridian of longitude, the Central range has been crossed by the Pundit Nain Sinh at the Karkang Pass (16,310 feet), whence the snowy peaks of the Northern and Southern chains, as well as those of the transverse ranges joining the latter, could be plainly descried. Beyond this our knowledge of the Central range does not extend.

In treating of the Southern range of the Himálayas, it is convenient to observe that both Mr. B. H. Hodgson and Mr. F. Drew, who are probably the weightiest authorities on the subject of this range, in its eastern and western sections, respectively agree in ascribing to it a threefold character. Mr. Drew calls these zones the Outer Hills and the Middle and Higher Mountains; Mr. Hodgson, the Lower, Central, and Upper regions. But the respective characteristics are the same in both sections, though local circumstances and the greater humidity towards the east may beget apparent divergence.

The origin of the Southern range at its north-western extremity is not yet fixed with precision, but it appears to spring from the southernmost point of the Pir Panjal range, with which it is undoubtedly connected in a geographical sense. At its outset it is pierced by the waters of the Chenab, the main stream of which rises in Lahul, far to the south-east, under the name of Chandra-bhaga, and for 180 miles drains the south-western and north-eastern slopes of the Central and Southern ranges respectively. The peaks of the latter gradually increase in height, from 1300 to 20,000 feet, and its outer slopes are washed by the Ravi and Beas, the feeders of which rise on the southern side of the culminating ridge. Passing the Sutlej, the road up the gorge of which is connected with Simla by the so-called Great Hindustán and Thibet Road, we note the Bhágirathí, Alaknandá, and a variety of rivers already referred to, which rise in the interval between the two southern ranges, and flow through ravines and gorges in the Southern range on their way to join the Ganges and Brahmaputra; while minor streams which rise on the southern face complete the copious hydrography of the region. A detailed enumeration of these would be unnecessary, but it is desirable in connection with this physical feature of the Himálayas to note the theory argued by Mr. Brian Houghton Hodgson, but rejected by some later geographers. Mr. Hodgson and others

have contended that the succession of stupendous peaks found in the Southern Himálaya do not form a chain, as they are separated, and their connecting ridge is broken by the numerous rivers which rise to the north. He argues, therefore, that these peaks form a series of culminating points of spurs jutting out from the Central range. On the other hand, it has been answered that this is not a question of fact but of nomenclature, and that the designation of chain is justified by the analogy of the chains or cordilleras of the Andes, which are pierced in a precisely similar manner, but to which no one denies the appellation in question.

The peaks of the Southern range constitute a series of the loftiest mountain summits in the known world. Their respective heights have been measured with the utmost exactitude by triangulation from the plains. Many of these exceed 25,000 feet above sea level, and the highest, named Mount Everest after Sir George Everest, who was Surveyor-General of India from 1830 to 1843, is 29,002 feet. It is the highest known mountain.

For a general sketch of the physical geography of the Himálayas, it is preferable to commence from the plains of India, and travel inland. As already remarked, the Southern range naturally falls into three divisions or regions, corresponding, as regards organic development, to the three great zones of the earth—tropical, temperate, and arctic. The aggregate breadth of these averages about 90 miles, and they gradually increase in height from the south, a factor which chiefly determines the climate, as for every thousand feet of height gained there is a diminution of 3 or 3½ degrees of Fahrenheit. In the Punjab, the transition from the plains to the Outer Hills is marked by a belt of dry, porous ground, seamed by numerous gullies or ravines, from a hundred yards to a mile wide, partly covered with long, tufty jungle grass, which is frequented by the black buck or antelope. To the east, the *Tarái* occupies the same position. This is a belt of waste, marshy ground, a fever-stricken region of varying breadth, lying below the level of the plains. This tract affords pasture to innumerable herds of cows and buffaloes. Beyond lies a dry belt of rising ground, called *Bhaver*, chiefly of a gravelly and sandy nature, and overgrown with a splendid growth of the valuable timber-tree called *sál* (Shorea robusta). Next intervenes the fossiliferous sandstone range (*vide* SIWALIKS), which does not rise more than three to six hundred feet above its immediate base, but which almost uniformly edges the Himálaya from the Jhelum to Upper Assam. The space between these and the slope of the Himálayas themselves is occupied by the *dúns*, the *maris* (in Nepál), and *dwárs* (in Bhután)—longitudinal valleys of rising ground, either cultivated or yielding a plentiful forest growth.

The vegetation clothing this region consists of *sáls*, sissus, acacias,

and mimosas, cotton-trees, etc.; the fauna, which to the east is luxuriant, includes the elephant, rhinoceros, wild bull, buffalo, deer, eagles, with many birds, and a variety of reptiles from the lizard to the python. In the western part of the middle region, forests of Himálayan oak, of pine, spruce, silver fir, and of deodar, occupy a great part of the mountain slopes, while other denizens of the temperate zones, in addition to tree rhododendra, tea allies, paper and wax trees, occur. The more sunny parts, where forest trees do not flourish (except where rocks jut out), are well covered with herbage, plants, and flowers, resembling those of Central or Southern Europe. The more noticeable among the animal types are bovine and caprine antelopes, sun bears (helarctos), leopards, and wild cats. The eastern part of the upper region is one of the superior conifers, though to the north-west these descend to a lower level, while the valleys of the highest regions are there occupied by a few fruit-trees, willows, and poplars. The cedars and deodars of the Himálayas attain magnificent proportions; in the Sutlej valley the former are sometimes 40 feet in girth and 200 feet in height. The chief representatives of the upper region among animals are the so-called bison (Bos gaurus), yak, musk-deer, wild goat and sheep, bear, ounce, fox, pheasant, partridge, etc. Mr. Hodgson has remarked that, generally speaking, the zoology of the Himálayas is much wider in the multitude of its diverse forms (genera and species) than in individuals of the same form, and that it is remarkably allied to the zoology of the Malayan islands; but that as one proceeds northwards towards the snows, it approximates to the European types.

The materials for arriving at a notion of the geology of the Himálayas are scanty; but, thanks to the official *Manual of the Geology of India*, we are placed for the first time in a position to arrive at a knowledge of the subject, so far as the few scattered observations hitherto recorded enable us to do so. The information upon which to base an outline consists of Captain R. Strachey's account of part of Hundes, Stoliczka's observations on Western Thibet, and occasional reports by members of the Geological Survey in the Lower and Sub-Himálayan ranges, besides a few isolated observations. So far as is known, the Himálayas exhibit more regularity of structure than the Alps. Three zones of permanent significance can be indicated. On the south there is a continuous fringing belt of lower ridges, known as the Sub-Himálayas, divided into the Siwálik and Sirmúr series, and composed of tertiary rocks. Between this marginal zone and the great snowy range there lies throughout the whole length of the Himálayas, to as far west as the Sutlej, a broad area some 50 miles wide, consisting of irregular ridges of moderate average elevation, from 5000 to 8000 feet, some ranging up to 12,000, all largely made up of crystalline

metamorphic rocks, in very obscure relation with some unaltered formations, the latter being for the most part of very uncertain age. This great area, characterised by extreme complexity of structure, is distinguished by Mr. Medlicott as the Lower Himálayan region; while he applies the term Central or Thibetan Division to the great snowy range, which is characterised by several parallel axes of gneissic rocks and intervening synclinal basins of little-altered fossiliferous formations.

The most favoured conclusion respecting the Sub-Himálayas is that they were upraised in late tertiary times. The prevailing rocks are soft, massive sandstones, associated in variable proportions with conglomerates and clays. With the exception of two places on the Bhután frontier where the marginal slopes of the plains reach to the base of the Lower Himálayan region, the fringe of tertiary rocks is, so far as we know, continuous from the Brahmaputra to the Jhelum. West of the Sutlej, where the Lower Himálayan area ends, there is an equivalent increase in the width of the Sub-Himálayan zone. One of the gaps in the tertiary zone occurs in front of the great gap between the Assam range and the Rájmahál Hills, through which all the Himálayan drainage passes on to the Bay of Bengal, but it is probable that the sandstones were once continuous across these gaps. Through Upper Assam the Sub-Himálayan Hills recur in full force to the Brahmaputra gorge, where they bend round across the head of the Assam valley, and conform to a system of disturbance having a totally different direction from that of the Himálayas proper.

Of the Lower Himálayas our geological information is very scanty. For 500 miles in Nepál there are only notes on one short section in the middle, and east of this throughout the whole range only one narrow area has been examined—in Sikkim. To the north-west most observations have been made, and here we find a continuous broad belt of unaltered limestones and shaly slates at the edge of the mountains, and at many points extending far into the interior. Eastwards it contracts, till on the Khatmandu section it has disappeared, and in Sikkim gneissic rocks come very close to the southern or main boundary. Thus from end to end of the range we have found two great rock series, a slaty and a gneissic. In the Simla region a strong case has been made out for very great unconformity between the two, showing the palæozoic rocks to have been deposited upon a very deeply and irregularly eroded surface of the old gneissic series, and structural features homologous to those of the Simla ground have been indicated in the east, so that should this relation of the two series be established throughout the range, a connection will have been made out between the Lower Himálayan region and a primitive gneissic mass forming a fundamental nucleus for the whole series of Himálayan formations.

The materials for a description of the Central or Thibetan Himálayas,

which is the name applied by the authors of the *Manual of the Geology of India* to all the remaining portions of the Himálayan Mountains, are extremely limited. With the exception of Dr. Hooker, observers within the Thibetan frontier have confined themselves to the north-western portion of the range. Owing to the difficulty of traversing such rugged ground, existing information is deficient in strategraphical observations, but on the other hand it is rich in palæontological results. From end to end of the partially known ground, two gneissic axes are more or less continuous. The southern of these is the Himálayan range proper, or Southern range of our geographical description, of which in Sikkim, and again west of Nepál for 300 miles, gneiss is the predominant rock, many of the highest and most massive peaks being formed of it. The second gneissic axis runs parallel to the first, at a distance of 50 to 80 miles, separating the Indus from its tributary the Shayok, and has also been referred to above. Between these two gneissic axes there is a long synclinal basin, in which the fossiliferous rocks are found in more or less complete sequence; and north of the Ladákh gneissic axis the same sedimentary series comes in again, the area being a broad synclinal basin, the newest rocks being found in the centre of it in the Karakoram ridge, while the older formations rise again to the north against a third gneissic axis forming the core of the Kuen Luen range. As a single geological axis the main Himálayan range may be said to end with the Lower Himálayan area in the Simla region, to the north-west of which there are three independent ranges with gneissic axes,—the Zanskar, Pír Panjal, and the Dhauladhar,—each of which have some claim to be considered the continuation of the main range of the Middle Himálayas. The chief sedimentary basins in which fossiliferous formations occur are the two central basins of Zanskar and Hundes or Nari-Khorsan, the northern basin of the Karakoram, and the southern area of Kashmír and Pangi.

Most parts of the Himálayan chains are known to contain metallic ores, particularly iron, lead, and copper, and of the two former there is no deficiency in the mountains between the Sutlej and Kálí. Salt, borax, and gold are not unfrequent across the frontier.

Turning to the ethnology, it is observable that the region of the Himálayan Mountains forms the meeting-ground of the Aryan and Turanian races, the latter having in all probability invaded India at the innumerable points of access to be found along the Himálayan line. The two great stocks are in some places curiously intermingled, though generally distinguishable. To the extreme north-west are found the Dards, an Aryan race of mountaineers, abutting on the Patháns or Afgháns on the west; and the Baltis, a race of Muhammadanized Thibetans of the Turanian stock, on the east. To this latter stock also belong the Champas, a race of hardy nomads wandering about the high

level valleys of Rupshu, and the Ladákhis, a settled race, cultivating the valleys of their country. The other Aryan races are the Paháris or 'mountaineers,' the Kashmíris, and the Dogras and Chibhalis, who inhabit the Outer Hills. In Garhwal and Kumáun we find the Kanawars (inhabitants of Bashahr); the Nilangs, people who differ in no respect from those of Hundes; and the inhabitants of the Bhátia Mahals of Kumáun and Garhwal, who are of mixed Tartar and Indian origin. In Nepál, Sikkim, and Bhután the following tribes occur, proceeding from west to east:—(1) The cis-Himálayan Bhutias or Thibetans, (2) the Sunwar, (3) Gurung, (4) Magar, (5) Murmi, (6) Nawar, (7) Kiranti, (8) Limbu, (9) Lepcha, who inhabit Sikkim, and (10) the Bhutánese or Lhopa. Of these, full ethnological details will be found in Mr. Brian Houghton Hodgson's exhaustive essays; but the subject is too large a one to receive more than a passing allusion here. Mr. Hodgson's long-continued researches in Nepál are the foundation of our knowledge alike of the natural history and the ethnology of the Himálayas. His essays, drawings, and scientific collections form, perhaps, the most wonderful memorial of intellectual activity which any Indian civilian has left behind.

Himatgarh.—Village in Sindhia's territories, Central India; situated in lat. 26° 3′ N., and long. 78° 5′ E., at the northern extremity of a narrow pass, extending from north to south through a range of rocky sandstone hills to the town of PANNIAR (Paniyár), the scene of an engagement (on the 29th December 1843) between the British under General Grey and the Marhattás, in which the latter were utterly defeated.—*See* PANNIAR.

Hindan.—River of the North-Western Provinces; rises in lat. 30° 8′ N., long. 77° 50′ E., at the south-western angle of the Siwálik Hills, and flows in a general southerly direction through the greater part of the Upper Doáb. Its banks rise to a considerable height on either side, enclosing a *khádir*, or alluvial lowland, liable to be flooded in the rainy season. Excellent crops are produced on this strip of inundated land. The chief tributary is the West Káli Nadi, which joins the main stream on the borders of Meerut (Mírath) and Muzaffarnagar Districts. The Hindan has a total course of 160 miles, and falls at length into the Jumna (Jamuná) in Bulandshahr District, in lat. 28° 28′ N., long. 77° 28′ E. Irrigation by the wheel and bucket is largely practised along its banks. The river can be forded throughout the greater portion of its course. Navigation cannot take place on any part of the stream. Surface velocity at Gháziábád, 11 feet per second. An iron bridge on the Delhi and Alígarh road, and another on the Delhi branch of the East Indian Railway, cross the Hindan within a few hundred yards of one another.

Hindaun.—Town in Jáipur (Jeypore) State, Rájputána; situated in

lat. 26° 44′ N., and long. 77° 5′ E., on the route from Agra to Mhow (Mhau), 71 miles south-west of the former and 344 north-east of the latter. Once an extensive city, but now, owing chiefly to Marhattá devastations, much decayed. The rampart which formerly surrounded the city is in ruins.

Hindaur.—Village in Partábgarh District, Oudh; situated on the road from Bela to Rái Bareli, about 15 miles from the former. Stated to have been founded by a demon (*rakshasa*) named Hindaur. Formerly a prosperous place, but now much decayed. Remains of the old fort and tanks are still to be seen. Hindaur was for some time the headquarters of the Sombansi *ráj* of Partábgarh. Pop. (1869), 1109, being 801 Hindus and 308 Musalmáns.

Hindiá.—Town and fort in Sindhia's territories, Central India; situated on the left or south bank of the Narbadá (Nerbudda), in lat. 22° 29′ N., and long. 77° 3′ E., on the route from Betul to Mhow (Mhau), 90 miles north-west of the former and 96 south-east of the latter. The fort commands several river *ghâts* or ferries. Occupied by a British force in 1820. Distant south from the fort of Gwalior, 280 miles.

Hindol.—One of the Tributary States of Orissa; situated between lat. 20° 29′ 30″ and 20° 49′ 30″ N., and between long. 85° 8′ 35″ and 85° 31′ 15″ E. Surrounded on all sides by native States; being bounded on the north and east by Dhenkánal; on the south by Barambá and Narsinhpur; and on the west by Angul. Area, 312 square miles, with 180 villages and 5849 houses. Pop. (1872), 28,025. Classified according to religion, there were—Hindus, 23,345, or 83·3 per cent. of the population; Muhammadans, 122, or ·4 per cent.; and 'others,' 4558, or 16·3 per cent. Number of males, 14,022; and of females, 14,003. Average density of population, 90 per square mile; villages per square mile, ·57; persons per village, 156; houses per square mile, 19; persons per house, 4·8. Classified according to race—aboriginal tribes, 3881, or 13·8 per cent., almost entirely composed of Taálas (1622) and Kandhs (1611); semi-Hinduized aborigines, 5168, or 18·6 per cent., mainly composed of Páns (3680); Hindus, 18,854, or 67·2 per cent., the most numerous castes being Chásás (7047), Bráhmans (2303), and Khandáits (1581); Muhammadans, 122, or ·4 per cent. The Cuttack and Sambalpur high road runs through the State in a south-easterly direction, and small quantities of country produce are thus brought to the Mahánadi, and there sold to travelling merchants. No fairs or markets are held, and only 5 villages are returned as containing upwards of 100 houses—viz. Hindol, principal village and residence of the Rájá, 297 houses; Karinda, 197 houses; Didárkot, 107 houses; Kanjagola, 105 houses; and Navápatna, 100 houses. Hindol consisted originally of 3 or 4 very petty States, completely buried in jungle, and ruled by separate chiefs, till two Marhattá

brothers, belonging to the family of the Kimidi Rájá in Madras, drove them out and formed their territories into one principality. The present chief is 26th in descent from the original founder. He maintains a military force of 83 men, and a police force 133 strong. His estimated annual revenue is returned at £2082; tribute, £55.

Hindri (*Indaravati*, colloquially *Handri*, hence *Hindri*).—River of Madras, an affluent of the Tungabhadra. It rises in the village of Maddikerra, Karnúl (Kurnool) District, and, after a course of 90 miles, joins the Tungabhadra near the town of Karnúl, in lat. 15° 50′ N., and long. 78° 9′ E. During a great portion of the year the stream is small; but owing to the heavy drainage from the neighbouring hills, it is liable to sudden floods, which render it temporarily unfordable. It is never navigable except by the smallest boats. Its waters are used for irrigation by *picottahs*, but there are no anicuts or systematic dams across its course. The canal of the Madras Irrigation Company is carried across the bed of the Hindri by a handsome aqueduct at Karnúl town.

Hindupatti. — Town in Sháhjahánpur District, North-Western Provinces. Lat. 27° 59′ 55″ N., long. 80° 8′ 55″ E.; pop. (1872), 6009, consisting of 3409 Hindus and 2600 Muhammadans. Forms part of a municipal union with TILHAR.

Hindupur.—Town in a *táluk* of the same name, Bellary District, Madras. Lat. 13° 49′ N., long. 79° 32′ E.; number of houses, 1638; pop. (1871), 6084.

Hindur (also called *Nalagarh*).—One of the Hill States, under the Government of the Punjab, lying between 30° 54′ 30″ and 31° 14′ 15″ N. lat., and between 76° 39′ and 76° 56′ 45″ E. long. Area, 256 square miles. The country was overrun by the Gurkhás for some years prior to 1815, when they were driven out by the British, and the Rájá was confirmed in possession. The present Rájá is Agar Sinh, a Rájput. Estimated population (1875), 70,000; estimated revenue, £9000. The Rájá pays an annual tribute of £500 to the British Government. Sentences of death require confirmation from the Superintendent of Hill States and the Commissioner of the Division. Other punishments are awarded by the Rájá on his own authority. The principal products of the State are opium and the usual grains.

Hindustán (literally '*The Country of the Hindus*,' Pers.). — The name given, somewhat indefinitely, to the portion of India lying north of the Vindhyán ranges, in contradistinction to the DECCAN (Dakshin), or the part situated to the south of that line. As the name is not now applied to any administrative division of the country, it need only be cursorily mentioned here. It is bounded on the north by the Himálayas; on the east by Assam; on the south by the Vindhyás; and on the west rather vaguely by the Punjab. It accordingly comprises the administrative tracts forming the Lieutenant-Governorships

of BENGAL, the NORTH-WESTERN PROVINCES and OUDH, together with the eastern portions of the PUNJAB, and perhaps the western Districts of the Chief Commissionership of Assam. Hindustán was also a name loosely employed by English writers during the last century and the first half of the present one, to include the whole of India. As employed by the natives themselves, however, it was never applied to the southern half of the Peninsula; and as regards even the country north of the Vindhyás, it did not strictly include either the extreme west, in the Punjab, or the extreme east, in Assam.

Hinganghát.—*Tahsíl* or revenue Subdivision of Wardha District, Central Provinces, lying between 20° 17′ 30″ and 20° 48′ N. lat., and between 78° 34′ and 79° 16′ E. long. Pop. (1872), 93,115, residing in 285 villages or townships and 19,735 houses; area, 716 square miles.

Hinganghát.—Town in Wardha District, Central Provinces; 21 miles south-east of Wardha. Lat. 20° 33′ 30″ N., long. 78° 52′ 30″ E.; pop. (1877), 9415. A main seat of the cotton trade, the Hinganghát cotton produced in the rich Wardha valley being esteemed one of the best indigenous staples of India. An English firm has established an agency in the town, with capacious iron-roofed warehouses, and a stock of full and half cotton presses; and they press for shipment direct to England. The principal native traders are Márwárís, many of whom have large transactions, and export to Bombay and elsewhere on their own account; but the greater number merely act as middlemen between the cultivators and the large merchants. The municipal committee have opened a large gravelled market-place and storage yard, with raised platforms, and scales for weighing the cotton. The place consists of old and new Hinganghát; the former, a straggling town, liable to be flooded by the river Waná; the latter, in which the better classes reside, laid out in broad streets and avenues. The chief native resident is (1870) the *khilátkár*, Rám Ráo. He traces his origin to Poona, when, a century ago, his ancestors were attached to the court of the Peshwá, their service being *mánkarí*, or personal attendance on the Peshwá. Summoned thence by Rájá Raghojí Bhonslá, after holding various offices, they obtained one-fourth of the town lands, which they reclaimed from the jungle. Their descendants now hold several villages, and enjoy a pension. At the *zilá* (chief) school of the District, English and vernacular are taught up to an advanced standard. The girls' school has hitherto proved unsuccessful. Hinganghát contains a *tahsíl* office; a furnished travellers' bungalow; a large *sarái*, with rooms reserved for Europeans, where travellers may halt for three days free of charge; and a dispensary, with buildings after the standard plan.

Hinglájgarh.—Hill fort in Indore, Central India; situated in lat. 24° 40′ N., and long. 75° 50′ E. It is surrounded by a ravine 200 feet deep and 250 wide, with perpendicular sides, from the edges of which

the walls arise. The only communications are by three causeways across the chasm, each leading to one of the three gates. The fort, which belongs to Holkar, was long considered by the natives impregnable, but it was stormed on the 3d July 1804 by a British detachment under Major Sinclair, with little loss. Distant from Indore 130 miles north.

Hingní.—Town in Wardha District, Central Provinces; 16 miles north-east of Wardha. Lat. 20° 55′ N., long. 78° 45′ E.; pop. (1870), 3061, chiefly weavers and cultivators. Founded about 150 years ago by Raghunáth Panth Subáhdár, grandfather of the present (1870) *málguzár*. A large masonry fort, two temples, two large houses, and twenty-one wells still attest the founder's energy. During the Pindárí disturbances, the *málguzár* held the fort with 200 followers. An annual fair takes place on the second day of the *Holí* festival; and a market is held every week. Hingní has a Government village school.

Hingoli.—Town in the Nizám's dominions, Haidarábád (Hyderabad), Deccan; situated in lat. 19° 43′ N., and long. 77° 11′ E., on the route from Haidarábád to Akola, 185 miles north-west of the former and 72 miles south of the latter. One of the stations of the Haidarábád Subsidiary Force. Distance from Sikandarábád (Secunderabad), 190 miles north-west.

Hingona.—Village in Sindhia's territories, Central India; situated on the left bank of the river Kohári, in lat. 26° 32′ N., and long. 77° 58′ E., on the route from Agra to the fort of Gwalior, 47 miles south of the former and 23 north-west of the latter. Here, in the end of December 1843, the British army under Sir Hugh Gough, accompanied by Lord Ellenborough, remained encamped some days during the abortive negotiations previous to the battle of Mahárájpur.

Hirápur.—One of the petty States of the Bhopál Agency, in connection with the Central India Agency and the Government of India. Estimated area, 8000 square miles; estimated pop. (1876), 635,000. The chief, Ráo Chatar Sinh, receives through the Political Agent the following pecuniary allowance in lieu of rights over land:—From Holkár, £333; from Sindhia, £291; from Bhopál, £20; total, £644. The Ráo also holds Hirápur and Ahirwás on an *istimrári* rent of £60.

Hirdenagar.—Village in Mandla District, Central Provinces; founded by Rájá Hirde Sháh about 1644. An annual fair is held on the banks of the Banjar, and considerable trade is done.

Hirehal (*Hiraholu*).—Town in Bellary District, Madras. Lat. 15° 0′ 30″ N., long. 76° 54′ E.; pop. (1871), 5024; number of houses, 1012; 20 miles south of Bellary. Centre of a brass industry. Ruins of an old fort.

Hirekel (or *Hirikal-gudda*).—Range of hills in the central plateau of Mysore State, at the junction of the Districts of Túmkúr, Hassan, and Kadur.

Hiremagalúr (*'Elder Daughter'*). — Village in Kádúr District, Mysore; one mile south-east of Chikmagalúr. Pop. (1871), 2443, chiefly composed of Srí Vaishnav Bráhmans. The mythical scene of a 'serpent sacrifice,' commemorated by a spear-headed stone pillar, which is still regarded as efficacious in cases of snake-bite. Inscriptions have been found dating back to the 11th century, and there are several old temples.

Hiriyúr. — *Táluk* in Chitaldrúg District, Mysore. Area, 764 square miles; pop. (1871), 62,607, including 1362 Muhammadans, 52 Jains, and 14 Christians; land revenue (1874-75), exclusive of water rates, £5718, or 8d. per cultivated acre. The soil is barren and stony, and in great need of irrigation. Iron is smelted, and glass ornaments are manufactured.

Hiriyúr (*' Great Town '*).—Municipal village in Chitaldrúg District, Mysore, on the right bank of the Vedavati river. Lat. 13° 57′ N., long. 76° 39′ 30″ E.; pop. (1871), 1731; municipal revenue (1874-75), £16; rate of taxation, 2d. per head. Founded in the 16th century, it suffered much during the wars between Haidar Alí and the Marhattás. On account of its present unhealthiness, it has been proposed to change the site to the opposite bank of the river; but the inhabitants are loath to desert their old temples. Hiriyúr is the headquarters of the *táluk* of the same name.

Hirode (or French Rocks).—Village and military station in Mysore District, Mysore; 2882 feet above the sea, and 4 miles north of Seringapatam. Lat. 12° 31′ N., long. 76° 45′ E.; pop. (1871), 4156. It derives its name from being the place where the French soldiers in the service of Haidar and Tipú were stationed. A regiment of Madras Native Infantry is now quartered in the cantonments.

Hisámpur.—*Parganá* in Bahráich District, Oudh; situated in the south-east corner of the District. Bounded on the north by Fatehpur *parganá;* on the east by Gonda District; on the south and west by Bára Bánki District. One of the oldest *parganás* in the District, taking its name from a village founded by some Ansáris in honour of Hisám-ul-hak, who is said to have been one of the comrades of the Musalmán invader Sayyid Sálár Masáúd, and to have perished with him in battle. At the time of this invasion, the country was in the hands of the Bhars, who seem to have maintained their influence and power for several centuries subsequent to that event. The Ansáris, an Arab tribe, appear to have been the first permanent Muhammadan settlers. The date of their arrival was probably 1226 A.D., when Nasír-ud-dín Muhammad brought Oudh into subjection. They occupied Hisámpur, Pachambar, and Tawakulpur, and increased their possessions until they had acquired about 250 villages. The Bhars, however, still held their ground; and in the reign of Muhammad Tughlak, the ancestor of the

Jarwál Sayyids found great difficulty in obtaining possession of the *jágír* that had been bestowed upon him. The Sayyids came originally from Persia to Lahore, whence they found their way to Delhi and Bára Bánki. The Ansáris passed away, and their possessions seem to have fallen into the hands of the Sayyids, who at the commencement of the present century were in possession of 276 villages, of which 157 had been acquired by purchase. In their turn, however, they had to give way before the Kalhâns Rájputs of Chhedwára, who within the last fifty years have acquired 112 villages in Hisámpur. The Raikwárs hold 52 villages in the north of the *parganá*. A large unimpaired ancestral estate is the *iláka* of Dubhápur, which was conferred on an ancient *kázi* who was made *kanúngo* of the *parganá*, and whose descendants still hold the office as well as the property. The whole *parganá* lies low, and its general appearance supports the tradition that in former ages it was subject to fluvial action, as the Gogra retreated westward and southward. The ground rises slightly towards the eastern boundary. Area (1874), 302 square miles, of which 155 are under the plough; barren and waste land, 33 per cent. of area. Government land revenue, £14,958; average rate on total cultivation, 3s. 1¼d. per acre; on assessed area, 2s. 10½d. per acre; on total area, 1s. 7d. per acre. Pop. (1869), Hindus, 107,486; Muhammadans, 22,105; total, 129,591, residing in 365 villages; average density of population, 435 per square mile. Three main lines of road intersect the *parganá*. Principal markets, Jarwál and Khutgaghát; minor *bázárs* at Sangána, Kurásar, Kotwá, and Patupur. Well-frequented weekly cattle market at Gandhára. Government schools in 8 villages. District post offices at Kurásar and Jarwál, with police station at former place. Government dispensary at Hisámpur.

Hissár.—Division under a Commissioner in the Punjab, comprising the three Districts of HISSAR, ROHTAK, and SIRSA, each of which see separately; situated between 28° 19′ 30″ and 30° 17′ N. lat., and between 73° 57′ 30″ and 77° E. long. Area, 8478 square miles; pop. (1868), 1,232,435; persons per square mile, 145.

Hissár.—British District in the Lieutenant-Governorship of the Punjab, lying between 28° 36′ and 29° 49′ N. lat., and between 75° 16′ and 76° 22′ E. long. Average width, 47 miles; extreme length from north to south, 83 miles. Bounded on the north and north-west by the State of Patiála and a small portion of the British District of Sirsa; on the east and south by the State of Jínd (Jheend) and the British District of Rohtak; and on the west by the deserts of Bíkaner (Bickaneer). Area, 3539 square miles; population in 1868, 484,681 souls. The town of HISSAR is the administrative headquarters of the District and of the Commissionership of the same name; but BHIWANI, with more than double its population, is the chief commercial town.

Physical Aspects.—Hissár forms the western border District of the great Bíkaner (Bickaneer) desert. It consists for the most part of sandy plains dotted with scrub and brushwood, and broken by undulations towards the south, which rise into hills of rock (highest, 800 feet) like islands out of a sea of sand. The Ghaggar, its only river, enters the District from the north-east in two branches a few miles from each other, and passes through it into Sírsa District on the north-west. Its supply of water is uncertain, depending much on the fall of rain in the lower Himálayas; the overflow in times of heavy rain is caught near Fatehábád and Murakhera by *jhíls* or swamps, which dry up in the hot season, leaving a fertilized bed, where rice, wheat, gram, and barley are grown. A canal from the Jumna (Jamuná), constructed by the Emperor Firoz Sháh Tughlak, crosses Hissár from east to west, irrigating 54 villages. The Bíkaner (Bickaneer) desert absorbs its scanty remaining waters at their western outlet from the District. This canal was choked up and disused till 1826-27, when it was restored by the British; it is now known as the WESTERN JUMNA CANAL. Apprehensions of increased revenue demands deterred the people from using its waters till the famine of 1832-33, since which date it has been utilized with much advantage to the crops, and well repays the capital invested. Neither the Ghaggar nor the canal is navigable. The soil of Hissár is in places hard and clayey, difficult to till, but when sufficiently irrigated highly productive. In these spots, water is only reached at a depth of from 100 to 130 feet; the cost of a masonry well is seldom below £150. The sandy tracts are not unfrequently swept by storms, which greatly alter the face of the country. No timber forests exist. A Government cattle stud near Hissár occupies an area of 43,287 acres, and this tract is wooded. The most important trees are the *kíkar* (Mimosa Arabica); the *jhund* (Prosopis spicigera), valuable for railway fuel; and the *sissu* (Dalbergia sissoo). Three shrubs, the *jhúl* (Salvadora oleoides), the *kavi* or leafless caper (Capparis aphylla), and the *jharberi* (Zizyphus napeca), abound; their berries become staple articles of food in times of scarcity. Lions were found in the District as late as 1830; wolves, wild hog, black partridge, hares, and quail abound. The Indian badger is occasionally seen among the brushwood. Old mosques and other buildings exist in parts of the District, especially near the town of Hissár. Two stone pillars erected by Firoz Sháh stand at Hissár and FATEHABAD.

History. — Prior to the Muhammadan conquest, the semi-desert tract, of which Hissár District now forms part, was the retreat of Chauhán Rájputs. Hánsi was then the capital, Hissár town being founded by the Emperor Firoz Sháh Tughlak about 1354. During the rule of Nawáb Sháh Dadkhán of Kasúr, from 1707 to 1737, the people and country were in a state of prosperity, soon to be changed to

confusion and distress under his successor, the Nawáb of Farrukhnagar in Gurgáon. In his time, Nadír Sháh ravaged the land, and the Síkhs began their inroads, while the Bhattís of Bhattiána joined in the bloody struggles for superiority which ensued. The ascendancy nominally belonged to the Marhattás in virtue of their dominant position at the Delhi Court. Eventually Rájá Amar Sinh of Patiála extorted the reluctant submission of the Bhatti chiefs; but on his death in 1781, they regained their independence. To complete the ruin brought on by these conflicts, Nature lent her aid in the great famine of 1783. In 1795-99, George Thomas, an Irish adventurer, who took service with a Marhattá chief, established his authority over a tract including Hánsi and Hissár, with an annual revenue of £200,000. He established a gun-foundry and mint at Hánsi, and aspired to conquer the Punjab. But in 1802, after an obstinate defence of Hánsi, his capital, he surrendered to an army sent against him by the French General Perron, at the instance of the Síkhs. He shortly afterwards died in British territory. Hissár passed nominally to the British in 1803. But although we maintained a military post at Hánsi, and placed *nazíms*, or native superintendents, in civil charge, it was not till 1810 that we could enforce order. Two chiefs of the Bhattis declared their independence —one of them, Khán Bahádar Khán, was expelled the country; the estates of the other, Zabta Khán, were confiscated in 1818. A long and difficult boundary contention between the British Government and the Patiála Rájá ended in the transfer of 150 villages to the latter. Early in the Mutiny of 1857, the local levies at Hánsi revolted. Hissár was wholly lost for a time to British rule, and all Europeans were either murdered or compelled to fly. The Bhattis rose under their hereditary chiefs, and the majority of the Muhammadan population followed their example; but before Delhi had been recovered, a force of Punjab levies, aided by contingents from Patiála and Bíkaner, under General Van Courtlandt, utterly routed the rebels. After the Mutiny, Hissár District was transferred from the Lieutenant-Governorship of the North-Western Provinces to that of the Punjab, and the Subdivision of Bhawání has since been added to it.

Population.—The first Census, taken in 1853, showed a population of 330,825, being 100 persons to the square mile. The latest Census (1868) returned the area at 3539·73 square miles, and the population at 484,681 persons, being 136·92 to the square mile; number of houses, 115,474—of townships or villages, 659; houses per square mile, 32·62; persons per township, 735·48; persons per house, 4·15. Males, 206,847; females, 217,834; total children below 12—males, 93,053; females, 78,774. Hindus, 373,937; Muhammadans, 102,928; 'others,' 6004. Among the Hindus, the Játs, who number 133,878, give the ethnical character to the District; they are of two distinct classes,

the one known as *deswála*, or 'long-settled,' the other as *bágri*, 'later-comers,' who occupy the western portion of the District. Both classes are excellent cultivators; their women share in all field labour not requiring the employment of oxen. The Hindu Rájputs (13,921), known generally as Tuárs, claim to have once held 1440 villages, though now only possessing 5 or 6. The Bhattis, Muhammadans of Rájput blood (22,008), trace their descent from Jesal of the Yadubansi stock. Both Tuárs and Bhattis were marauding desert tribes. The Pachádas, or 'men of the west,' now all Muhammadans, are in Hissár degenerate Rajpúts, who usually act in concert with the pure born Bhattís. A religious sect, known as Bishnos, worship their founder, Jámbhají, as an incarnation of Vishnu, and bury their dead in a sitting posture, in the floors of their houses or cattle-sheds. They consider even the touch of tobacco polluting. At their marriages, passages from the Koran and the Shástras are indiscriminately recited. They avoid destroying life, and bury any animal accidentally killed. Their number is not recorded, but in Hissár they own 10 villages. There are 3 municipalities in the District, viz. BHAWANI, pop. (1868), 32,254; HISSAR, 14,133; HANSI, 13,563; leaving for the smaller towns of over 3000 persons, 32,164, and a strictly rural population of 392,567. The decayed town of AGROHA is interesting as being the original seat of the great mercantile class of Agarwálás. The rock-cut inscriptions of Tosham also deserve notice.

Agriculture.—Autumn rice is sown in June and July; the spring crops from September to November. Rotation of crops is understood, but not regularly practised. Manure is little used. Camels are employed as well as oxen and buffaloes for ploughing. The extent of land under cultivation is not constant, depending entirely on the rain-fall. In 1872-73, 1,431,541 acres were under tillage, out of an assessed area of 2,265,428 acres, leaving 833,887 acres fallow. In favourable seasons, cotton is extensively grown on land irrigated by the Western Jumna Canal. Hissár produces a breed of milk-white oxen, 17 or 18 hands in height, which are in great request for the carriages of natives; a good pair is worth £40. The two streams of the Ghaggar irrigate a portion of the northern section of the District; but their waters are available at the best for only a month or six weeks, and this partial irrigation must be supplemented by rain in December or January to ensure a crop. The land watered by the main or southernmost stream yields only a spring crop; that situated near the northern branch of the river produces both a spring and an autumn crop. The Western Jumna Canal irrigates 54 villages. More than half the village communities of the District are coparcenary, whilst rather fewer than one-third are held by single owners. Formerly, many proprietors called themselves cultivators, in order to avoid the obligation imposed by a

curious local custom, requiring landholders to track the footprints of criminals out of their bounds, or to give them up. These men have, under the present settlement, been recognised as proprietors. Thirty grants, varying from 60 to 300 acres in extent, were bestowed, revenue-free for three lives, on the native officers of cavalry regiments disbanded in 1819. These were known as *súkhlambri* (a corruption of 'supernumerary') grants; most of them have now lapsed. The estates of the late Colonel James Skinner, C.B. (comprising 67 villages, paying a revenue of £4355, or about a tenth of the entire revenue of the District), remain undivided, and are now managed by one member of the family on behalf of the others. More than 15,000 tenants have occupancy rights; but double that number possess no security of tenure. Rates of rent vary from about 1s. to 18s. per acre. Farm labourers, when paid in money, earn from 2¼d. to 6d. a day.

Natural Calamities.—The District has always been subject to famine. The first calamity of this kind of which we have authentic record occurred in the year 1783, when the price of the commonest grain rose to 22s. a cwt. Since then there have been more or less serious failures of the crops in 1833, 1835, 1836, 1837, 1838-39, 1860-61, 1869-70. In August 1869, 63,000 persons received relief.

Manufactures, etc.—The annual out-turn of rough saltpetre is estimated at 450 *maunds*. The rural manufactures are—coarse cotton cloth; vessels made of prepared skins, chiefly at FATEHABAD; copper and brass vessels. Principal exports—oil-seeds, chiefly sesamum, the trade in which is increasing; in good seasons, gram, and considerable quantities of the coarser grains, go westward; copper and brass utensils to Rájputána; hides are sold for Cawnpore and Meerut (Mírath); a little cotton *viâ* Fazilka to Karáchi. Imports—salt, sugar, fine rice, cotton goods of English make, spices, and iron. The exports are about double the imports in value. The trade of the District centres in Bhawáni, where 9 lines of traffic converge; but since the opening of the Rájputána Railway, several traders have removed to Delhi. The main road, about 50 feet wide, unmetalled from Delhi to Sírsa, traverses the District from south-east to north-west, passing through Hánsi and Hissár towns; 14 other roads, together 241 miles long, supply communications. Camels are largely employed for transit. There are no railways. The only printing-press is at the jail, where lithographic work is executed.

Administration.—In 1810, when first the attention of Government was seriously directed to the tract of which Hissár forms part, the country, with the exception of Hánsi, either lay entirely waste, or was held by recent settlers, ready to abandon their occupancy on the least pressure. It was not till 1816 that a settlement for 10 years was made, continued for a further term of 5 years; in 1831-32, another 10 years'

settlement followed. These assessments ranged somewhat above 4½ *lákhs* of rupees (£45,000); but during their currency, in some years a balance of 50 per cent. accrued, and the average arrears from 1825 to 1839 was 28 per cent. In 1840, the Collector showed that only the canal villages could bear any but a low assessment, which he ultimately reduced by an average of 37·4 per cent. below previous rates; this was confirmed in 1841 for 20 years. A new assessment for 30 years was sanctioned in 1864 at £41,022. Under this settlement no serious balance has accrued. The incidence of the present assessment is at the rate of 7½d. per cultivated acre; 4¾d. per cultivable acre; and 4½d. per acre of total assessed area.

Since 1869-70, Hissár town has been the headquarters of 191 miles of the inland customs line. Patrol officers guard the barrier, which in Hissár is, with short intervals, formed by a hedge of the *jher-beri*, or dwarf jujube, supported and strengthened by stakes. Whole furlongs and even miles of this hedge are not unfrequently swept away by storms in an hour, and white ants and jungle flies also destroy it. In 1871-72, the customs receipts in Hissár District were—on sugar, £28,436; salt, £186,754; miscellaneous, £70; total, £215,260.

The administration is conducted by one Deputy Commissioner, an Assistant, an extra-Assistant, 5 *tahsíldárs* or Subdivisional collectors, and 5 *naibs* (deputies). The total District police, in 1872, numbered 396 men of all grades; the municipal police, 174. The District is divided for police purposes into 19 *thánás* or police circles. The number of persons brought to trial in 1872 was 1723, the great majority of them charged with petty offences. One jail; daily average of prisoners in 1872, 213; yearly cost, £5, 14s. 9d. per head, after deducting earnings of the hard-labour convicts. The percentage of deaths among the jail inmates was 1·28 in 1872. In 1872, 50 schools were in existence, with 1729 scholars, of whom only 192 were of the Musalmán faith.

Hissár, Hánsi, and Bhawáni were constituted municipalities under Act xv. of 1867. A municipal income is also raised in the towns of Fatehabad, Rattía, and Tohána; total population within municipal limits in 1871-72, 69,403; incidence of taxation, 2s. per head.

Meteorological Aspects, etc.—The climate of Hissár is very dry. Hot westerly winds blow from the middle of March till July. The rainy season lasts from July to September. In December and January the nights are very cold. Average rainfall for the six years ending 1872-73, 14·57 inches, varying from 8·7 inches in 1868-69 to 28·5 inches in 1872-73. The principal diseases are fevers and small-pox. Cholera occasionally breaks out, and in 1867 caused 3625 deaths, being brought into the District on that occasion by pilgrims from Hardwár. Skin diseases are also very common. The average ascertained death-rate of

the District is 18·50 per 1000, that of the three principal towns being 43·50. There are 2 Government dispensaries in the District, viz. at Bhawáni and at Hánsi.

Hissár.—*Tahsíl* of Hissár District, Punjab, lying between 28° 42′ and 29° 20′ N. lat., and between 75° 24′ 30″ and 75° 58′ E. long.

Hissár.—Municipal town and administrative headquarters of Hissár District, Punjab. Lat. 29° 9′ 51″ N., long. 75° 45′ 55″ E.; pop. (1868), 14,133, consisting of 9211 Hindus, 4805 Muhammadans, 34 Síkhs, and 83 Christians. Situated on the Western Jumna Canal, 102 miles west of Delhi. Founded 1354 A.D., by the Emperor Firoz Sháh, who constructed the canal to supply it with water. Supplanted Hánsi as political and fiscal centre of the District, and became Firoz Sháh's favourite residence. The débris of his town still remain in the mounds and broken bricks scattered profusely over the plain south of the modern city. Tombs and temples still standing attest its former greatness. Fell into decay during the last century, owing to the constant inroads of the Síkhs and other marauders. Almost completely depopulated during the *San Chálísa* famine of 1783. Occupied about the year 1796 by the adventurer George Thomas, who built a fort, and collected a number of inhabitants for his new town. The streets are wider and less tortuous than in most native towns; but a squalid suburb has sprung up outside the walls. The civil station lies south of the city, on the opposite side of the canal. Contains a cattle farm, both for commissariat purposes and for improving the breed of the Province; it is managed by a European superintendent, and has attached an estate of 43,287 acres for pasturage. Import trade in grain, *ghí*, sugar, oil, cotton, tobacco, and English piece-goods. Municipal revenue in 1875-76, £1229, or 1s. 8¾d. per head of population (14,199) within municipal limits.

Híwarkhed.—Town in Ellichpur District, Berar. Lat. 21° 23′ 30″ N., long. 78° 7′ 30″ E.; about 45 miles east of Ellichpur, on the banks of the Pákand Nalí, a tributary of the Wardha. Pop. (1867), 3164, chiefly Kumbís. Weekly market; trade in molasses and salt. Government school; fine encamping ground.

Hlaing.—Township lying on both banks of the Hlaing river, and occupying the north-west portion of Rangoon District, Pegu Division, British Burma. Area, 678 square miles; bounded on the north and west by Henzáda, and on the south and east by the Hmaw-bhí and Hpoung-leng townships of Rangoon. Hlaing comprises 4 revenue circles, viz. Uk-kan (Ook-kan), Myoung-ta-nga, Aing-ka-loung, and Bhaw-lay. In 1876, the population was 19,996; area under rice, 28,469 acres; gross revenue, £9620. To the east of the township, the country is hilly, and much valuable timber, such as teak, *pyeng-ma*, *eng*, *ka-gnyeng*, *theng-gan*, and *pyeng-gado* abounds. Below this the

country gradually sinks into a plain, the eastern borders of which on the north lie lower than the banks of the Hlaing, and are consequently annually inundated. West of this river, the country is one vast flat, only a few points being above flood level. On these rice is grown; elsewhere the plain is covered with grass and unimportant tree forest. The chief rivers are the Hlaing and its tributaries, and the Bhaw-lay creek. The principal villages are—Taw-la-tai, on the Bhaw-lay, the headquarters station, with a population (1877) of 626 souls; Pouk-kún; and Myoung-ta-nga. A little to the south of Hlaing are the remains of an old city, said to have been founded by Rahzadhierit, the famous Talaing monarch.

Hlaing.—A river of British Burma, in the Irawadi valley, which flows past Rangoon town, whence to its mouth it is universally known as the Rangoon river. It rises in the marshy ground east of Prome, and enters the Engma Lake as the Zay, thence it continues its southward course as the Myit-ma-kha, and, traversing Henzáda District east of and almost parallel to the Irawadi, enters Rangoon District at Myit-kyo. In the north, the Hlaing is separated from the Irawadi by a line of low hills covered with *eng* forest; below Myanoung, numerous creeks connect it with that river. It is navigable from Tsan-rwe, where it receives the Thún-tshay from the east to Ta-pwon, the water being never less than 3 feet deep, but the channel in many places is choked by jungle. Small boats can ascend as far as Engma. Owing to numerous shoals, the Hlaing is impracticable for steamers above Tsan-rwe, where its width is 180 yards, its depth 4 feet, and the tidal rise 2½ feet. The Bhaw-lay leaves it in lat. 17° 15′ N., and rejoins it again as the Kúk-ko immediately north of lat. 17° N., and the Hlaing here widens considerably. Three miles below their junction, it suddenly spreads out to a breadth of several miles, and its course is divided by two islands into three channels, of which the eastern is the deepest, and the one always used by river steamers reaching the Irawadi through the Bhaw-lay creek during the rains. Up to 1874, the route was *viâ* the Pan-hlaing channel, but this is now gradually silting up. The western channel is shallow, and the central one still shallower, and obstructed by sandbanks. Just above Rangoon, this river is joined by the Pan-hlaing from the westward, and, sweeping round the town to the east, receives the Pegu and Pú-zwon-doung, when it turns north again and flows into the Gulf of Martaban, in lat. 16° 28′ N., and long. 96° 20′ E., through a mouth 3 miles broad. The land at the entrance is low, and fringed with dense mangrove forest. The spring tides rise 21 feet, and neaps 13 feet. The Hlaing is navigable to Rangoon by large ships; but the passage is winding and difficult, and the Hastings' Shoal, formed just above the united mouths of the Pegu and Pú-zwon-doung rivers, can only be crossed at flood tide. During the rains, the river

is navigable for 30 miles above Rangoon by ships of 500 tons burden.

Hlaing-bhwai.—A river in Amherst District, Tenasserim Division, British Burma. It rises in the northern portion of the Dawna range, and, flowing southward for about 120 miles, unites with the Houng-tharaw at Gyaing, where it has a breadth of 400 yards; at its junction with the Da-gyaing, 42 miles above Gyaing, in lat. 16° 55′ N., and long. 98° 2′ E., it is only 70 yards wide during the rains. The two streams, under the name of the Gyaing river, fall into the Salwín at Maulmain. During the rains, the water is muddy, and the current strong and rapid; in the dry season, when the spring tides extend a distance of 70 miles, boats of 500 baskets burden can go up as far as Hlaing-bhwai. About 200 yards below this village, a reef of rocks, which can only be passed at the highest tides, stretches across the river. As far as the mouth of the Da-gyaing, the banks are high and well defined; farther down, they become low and bordered with scrub forest.

Hlay-tshiep.—Revenue circle on the right bank of the Irawadi, in Henzáda District, Pegu Division, British Burma. Pop. (1876), 2269; gross revenue, £779.

Hmaw-bhí (*Hmaw-bhee*).—Subdivision of Rangoon District, British Burma, lying westward of the Pegu Yomas, in Pegu Division. The Rangoon and Irawadi Valley (State) Railway crosses Hmaw-bhí from south to north, and occupies the great northern military road from Hmaw-bhí station. The principal river is the Hlaing, which, joined by the Pan-hlaing in the south, forms the Rangoon river. In the rains, it is navigable by steamers for some distance—by boats all the year round as high up as the mouth of the Re-nek. The Subdivision comprises 15 revenue circles. Pop. (1876), 70,433; gross revenue, £33,742.

Hmaw-bhí (*Hmaw-bhee*). — Township in Hmaw-bhí Subdivision, Rangoon District, Pegu Division, British Burma; extending along the western slopes of the Pegu Yomas, beyond the Hlaing river to the Pan-hlaing, and east and south-east into the Pegu valley. The township consists of 3 portions, each differing from the others:—(*a*) West of the Hlaing, the country is flat, and traversed by numerous inter-communicating tidal creeks, which every second or third year, since the construction of the Irawadi embankments, flood the fields and destroy the crops. There is but little cultivation, and the country is to a great extent covered with open tree forest and elephant grass. (*b*) In the tract north of Rangoon, the country consists of undulating ground, which, towards the north-east, rises into hills clothed with tree forest. The soil is poor, but rice is extensively grown. (*c*) East of Rangoon, the country is open, level, and highly cultivated; the soil is rich and productive, but is becoming exhausted, as the fields are allowed no rest, and rotation of crops is not practised. Pop. (1876), 50,487;

total area under cultivation, 97,919 acres, chiefly under rice; gross revenue (1876), £27,259. The township is traversed by the Irawadi Valley (State) Railway; the stations are at Thamaing, Hlaw-ga, and Hmaw-bhí. The headquarters of the township are at Lun-gún.

Hmaw-bhí (*Hmaw-bhee*).—Revenue circle in Rangoon District, Pegu Division, British Burma; bounded on the north by the Myo-khoung, on the south by the Hmaw-bhí stream, on the east by the Pegu Yomas, and west by the river Hlaing. On the east, the country is covered with tree forest; in the centre of the circle, there is a good deal of rice cultivation, though the soil is poor; towards the west, there are shrub forests, and the country is broken at places by marshes. Pop. (1876), 4644; total area under cultivation, 10,231 acres, chiefly under rice. The principal village is Hmaw-bhí (lat. 17° 4′ 40″ N., long. 96° 6′ 5″ E.), with 803 inhabitants, chiefly employed in rice cultivation.

Hmaw-won.—Revenue circle at the mouth of the Rangoon river, in Pegu Division, British Burma. The south of the country consists of an extensive and highly cultivated plain, the lower parts of which, however, are subject to inundation; the northern portion contains a good deal of tree forest. In the extreme south, there is a masonry pillar which marks the entrance to the Rangoon river. Pop. (1876), 7740, chiefly agriculturists; gross revenue, £6716.

Hnai-gyo.—Revenue circle in Thon-khwa District, Pegu Division, British Burma. Pop. (1876), 5828, chiefly traders, gardeners, and rice cultivators; gross revenue, £1938. Before the construction of the protective embankments, Hnai-gyo was covered with grass and tree forest.

Hocho (or *Hopcho*).—A river rising among the snows on the western declivity of the Gantang Pass, Kashmír, in lat. 31° 38′ N., and long. 78° 48′ E. Thus described by Thornton: 'Even near the source, it in some places spreads to a width of 100 yards, and in one part to 200, in another to 300; but it is so shallow as scarcely to cover the pebbles in its bed. In other places, it is arched over with snow, or buried under the ruins of cliffs, from which it again bursts out and expands over the plain. The fall, which in the upper part of its course is very gentle, lower down is very rapid, as from its source to the confluence with the Sutlej, a distance of less than 12 miles, in a westerly direction, it descends 10,000 feet, and is in general one broken sheet of foam. The mountains bounding its course on each side are precipitous, lofty, and covered with perpetual snow, avalanches of which frequently descend, and, damming the stream, form deep lakes, over the icy embankments of which the river is precipitated with a loud noise.'

Hodál.—Town in Gurgáon District, Punjab; situated near the southern confines of the District, on the main road from Delhi to Agra. Pop. (1868), 7032, of whom 3128 are Hindus, 181 Muhammadans, and

3723 'others;' gross municipal income (1871-72), £105; rate of municipal taxation, 3⅝d. per head of population within municipal limits. Hodál is only important as a centre of local trade in country produce.

Holalkere. — Municipal village in Chitaldrúg District, Mysore. Lat. 14° 3′ N., long. 76° 15′ E.; pop. (1871), 3123; municipal revenue, (1874-75), £46; rate of taxation, 3½d. per head. Said to have been founded in the 14th century, it was the first possession of the founder of the powerful *poligárs* of Chitaldrúg. It suffered much during the wars between Haidar Alí and the Marhattás. Large weekly market.

Holavanhalli (formerly called *Korampur*).—Village in Túmkúr District, Mysore. Lat. 13° 32′ N., long. 77° 22′ E.; pop. (1871), 1731. The site of a fort of a wealthy family of local chiefs, finally reduced by Tipú.

Hole-honnur.—Village in Shimoga District, Mysore; situated near the spot where the Tungá and Bhadrá rivers unite to form the Tungabhadrá. Lat. 13° 59′ 10″ N., long. 75° 43′ E.; pop. (1871), 1332.

Honavalli.—*Táluk* in Túmkúr District, Mysore. Area, 522 square miles; pop. (1871), 57,359; land revenue (1874-75), exclusive of water rates, £6757, or 4s. 2d. per cultivated acre. Dry crops—*rágí, avare*, horse-gram, and Bengal gram; wet crops—rice, sugar-cane, and wheat. The cocoa-nuts are celebrated.

Honavalli (from the goddess 'Honnu-amma').—Village in Túmkúr District, Mysore. Lat. 13° 20′ N., long. 76° 24′ 45″ E.; pop. (1871), 2304, of whom many are Bráhmans. It is celebrated for its groves of cocoa-nut palms. The headquarters of the *táluk* of the same name have recently been removed to Tiptúr.

Honáwar (*Honor*).—Seaport and chief town of the Subdivision of the same name in North Kanara District, Bombay; situated in lat. 14° 16′ 30″ N., and long. 74° 29′ E., 40 miles south-east of Kárwár, on the north of an extensive estuary or inlet of the sea, forming an expanse of salt water, which at its south-eastern extremity receives the Gersoppa or Shiráwati, a considerable river flowing from beyond the Western Gháts. Pop. (1872), 5191; average annual value of trade for five years ending 1873-74—exports, £30,032; imports, £21,499. There is a sub-judge's court, post office, and dispensary. Honáwar has long possessed a coasting trade of importance. It is mentioned by Abulfeda (1273-1331); and shortly afterwards (1342) is described by Ibn Batuta as rich and well governed, with 23 schools for boys and 13 for girls. At the beginning of the 16th century, it is said to have exported much rice, and to have been greatly frequented by shipping. In 1505, the Portuguese built a fort at Honáwar; and two years later, in consequence of some dispute with the King of Viziápur, they attacked and burnt the town. Frederick (1563-81) calls 'Onor' a fort of the Portuguese; and in 1623, De la Valle found it a small place, but still in the hands

of the Portuguese. On the decay of the Portuguese power in India, Honáwar was acquired by the sovereigns of Bednor; and on the conquest of Bednor by Haidar Alí, this town also submitted to him. In 1783, it was taken by assault by a British force despatched from Bombay, under the command of General Mathews; and in 1784, successfully defended by Captain Torriano against Tipú Sultán, to whom, however, in the same year, it was ceded by the treaty of Mangalore. On the overthrow of that prince in 1799, it again came into the possession of the British.

Hongal (*Bail Hongal*).—Town in Belgáum District, Bombay. Lat. 15° 48′ N., long. 74° 54′ E.; pop. (1872), 9001. There are manufactures of coarse cotton cloth and articles of native apparel, some of which are sold in the neighbouring markets, and the remainder exported *viâ* Belgáum to the Konkan. Hongal is built on rising ground on the eastern side of a fine tank, from which is drawn the main water supply of the inhabitants. The prefix 'Bail' probably refers to the fact of the town being built in the centre of a large plain. The market is celebrated for the superior class of bullocks sold. Once a year a large fair is held, at which all the most noted wrestlers of the surrounding country assemble.

Honnali.—*Táluk* in Shimoga District, Mysore. Area, 498 square miles; pop. (1871), 65,787, including 3570 Muhammadans and 231 Jains; land revenue (1874-75), exclusive of water rates, £10,259, or 10s. 3d. per cultivated acre. The crops are dry grains and cotton.

Honnali.—Municipal village in Shimoga District, Mysore; 24 miles north of Shimoga. Lat. 14° 14′ 30″ N., long. 75° 41′ 20″ E.; pop. (1871), 2492, including many Vaidik Bráhmans and Lingáyat grain merchants; municipal revenue (1874-75), £305; rate of taxation, 2s. 5d. per head. The residence of a Nawáb of Afghán descent, whose ancestor received the village as an estate from the Delhi Emperor, but now the title only remains. Since 1869, the head-quarters of the Honnali *táluk* have been removed to Nyamti.

Honnuhol (*Honno-holl*, or *Suvarnávati*, both meaning 'Golden Stream.')—A tributary of the Káveri (Cauvery) river, which runs across the south-east corner of Mysore District, Mysore, and joins the Cauvery just within the Madras District of Coimbatore. Its valley is very fertile, the stream being dammed in its short course by 3 permanent anicuts, as well as by many temporary structures, yielding a revenue of more than £3800.

Hooghly.—River, District, Subdivision, and town, Bengal.—*See* HUGLI.

Horsleykonda (or *Mullama Konda*).—Mountain in Cuddapah District, Madras. Lat. 13° 37′ 30″ N., long. 78° 24′ E.; about 4000 feet above sea level. A small range, cut up into numerous little culti-

vated valleys. The slopes are well wooded. The highest point, Múdimadúgú, is 4150 feet above sea level.

Hosdrúg (also called *Pudukotta*, or 'New Fort').—Town in South Kanara District, Madras; situated in lat. 12° 18′ 29″ N., and long. 75° 9′ 15″ E., 2 miles from the sea, and 42 miles from Cannanore. Pop. (1871), (including Ajanúr), 5162; houses, 1266. A Subdivisional station with sub-magistrate's court, excellent bungalow, and ruins of a magnificent fort.

Hosdurga. — *Táluk* in Chitaldrúg District, Mysore. Area, 667 square miles; pop. (1871), 60,820, including 1194 Muhammadans and 264 Jains; land revenue (1874-75), exclusive of water rates, £6884, or 1s. 6d. per cultivated acre. Crops—*jolá*, *rágí*, and a little cotton. Iron is smelted, and there are many workers in brass.

Hosdurga.—Municipal village in Chitaldrúg District, Mysore; 30 miles south by west of Chitaldrúg. Lat. 13° 48′ 10″ N., long. 76° 20′ E.; pop. (1871), 2309; municipal revenue (1874-75), £53; rate of taxation, 5½d. per head. Called after a hill fort said to have been erected in 1675, at the northern base of which the present *pete* or village was added in 1708. Headquarters of the *táluk* of the same name.

Hoshangábád.—A British District in the Chief Commissionership of the Central Provinces, lying between 21° 40′ and 22° 59′ N. lat., and between 76° 38′ 30″ and 78° 45′ 30″ E. long. Bounded on the north by the Narbadá (Nerbudda), which separates it from the territories of Bhopál, Sindhia, and Holkar; on the east by the Dudhi river, dividing it from Narsinhpur District; on the south by the Districts of Western Berar, Betúl, and Chhindwára; and on the west by Nimár. Population in 1872, 440,186; area (1877), 4376 square miles. The administrative headquarters of the District are at HOSHANGABAD TOWN, which is also the most populous place.

Physical Aspects.—Hoshangábád may be generally described as a valley of varying breadth, extending for 150 miles between the river Narbadá (Nerbudda) and the Sátpura Mountains. The soil consists chiefly of black basaltic alluvium, often more than 20 feet deep; but along the banks of the Narbadá the fertility of the land compensates for the tameness of the scenery. As far west as Handiá, only an isolated rock breaks at intervals the monotony of the plain. Rich crops of wheat clothe the gentle undulations. At places near the river some woodland tract is shady with young teak-trees; but except in the poor sandy soil, not worth cultivating, little or no jungle has been suffered to remain. Beyond Handiá, the aspect of the country changes. Low stony hills and broken ridges cut up the level ground, while the Vindhyás from the north and the Sátpuras from the south-west throw out jutting spurs and ranges, along the base of which lie tracts of red earth and rock. Much of the surface here is covered by

an alluvial cotton-soil, for the most part very thin; so that a few miles to the west of Hardá, blocks of granite for the railway works were quarried from a depth of only 6 or 8 feet. In the wilder country to the west of the District, considerable regions are overgrown with jungle. On the south, however, appears the most striking contrast with the champaign country along the Narbadá. The lofty range which shuts in the valley is remarkable for mountain scenery, surpassing in its picturesque irregularity the Vindhyán chain in the north—a succession of cliffs and abysses. Everywhere huge masses of sandstone stand boldly out, with scarped faces of rock many hundred feet high. Amid these precipices rise numberless little streams, many of them perennial; then, winding through deep glens, and working their way from the mountain spurs, they flow across the plain between sandy banks covered with low jungle, till they swell the waters of the mighty Narbadá. Such are the Dudhi, Anjan, Denwa, Ganjál, and Moran; the last of which contains a vein of indifferent coal. Such, too, is the Tawa, so interesting to the geologist. 'At its mouth, the Bijáwar limestone is seen presenting a peculiar structure; the alternating bands of siliceous and calcareous minerals, instead of being plane, are concentric around nuclei of quartz, many of these concentric masses being of great size. A little farther south, there is an immense mass of hard quartzose breccia, similar to that seen north of the river north-west of Chándgarh, composed of purple jasper-like rock, with enclosed angular fragments of quartzite; upon this rest Vindhyán shales, sandy as usual, and passing upwards into the typical quartzite sandstone, which forms hills west of the stream. Higher up, the Tawa trap comes in; and farther on still, there is a patch of granitoid rock.' None of the above-named streams, however, is of any great importance; and the boundary rivers, the Narbadá and the Tápti, are the only considerable waters in Hoshangábád. At Chárwá, in the west of the District, a dense low forest extends over a large region; but by far the finest timber is found in the reserved tracts at Borí and Denwa, which were made over to Hoshangábád from the District of Chhindwára in 1865, and are rich in teak and *sál*.

History.—Little is known of the history of Hoshangábád prior to the Marhattá invasion. The four Gond Rájás who in 1870 held the eastern portion of the District, derived their title from the Rájás of Mandla. The central region was subject directly or indirectly to the Gond power at Deogarh; and in the extreme west, the Gond Rájá of Makrái apparently exercised an extensive independent jurisdiction. In the time of Akbar, Handiá was the headquarters of a *sarkár* or District, and was occupied by Mughal troops; Seoni was attached to a Province of Bhopál, and Hoshangábád is not mentioned at all. In all probability the eastern part of the District maintained a rude independence,

the imperial power at Delhi not caring to wrest this rugged region from the wild Gond tribes who inhabited it. About 1720 A.D., Dost Muhammad, the founder of the Bhopál family, took the town of Hoshangábád, and annexed a considerable territory with it, stretching from Seoni to the Tawa, or even as far as Sohágpur. In 1742, the Peshwá, Báláji Bájí Ráo, passed up the valley on his way to attack Mandla, and seized the opportunity to subdue the Handiá *parganás*, which he succeeded in retaining in his possession. Eight years later, Raghojí Bhonslá, the Marhattá Rájá of Nágpur, overran the whole range of hills from Gáwilgarh to Mahádeo, and reduced the country east of Handiá and south of the Narbadá, except the portion held by Bhopál. Hitherto the rival dynasties of Nágpur and Bhopál had not come into conflict, and the Gond Rájás in the east still maintained their independence. In 1795, however, a contest was begun by the Bhonslás, which lasted with few intermissions for more than twenty years, and did not cease till it had spread desolation over the face of this fertile valley. The first achievement was that of Bení Sinh Subahdár, one of Raghojí's officers, who captured the town and fort of Hoshangábád, after a sturdy resistance from the Bhopál troops. In 1802, however, the Bhonslás lost by an intrigue what it had cost them a two months' siege to gain. The *kiládár* or governor was so alarmed by the representations of the Bhopál party, that on the approach of Wazír Muhammad, then the virtual ruler of Bhopál, he gave up the place without striking a blow in its defence. Encouraged by this success, and by the occupation of Seoni, Wazír Muhammad proceeded to overrun all the Sohágpur *parganá*, and to lay siege to the fort of Sohágpur itself. Here his good fortune deserted him. The fort was relieved by a force from Seoni Chhapára, which defeated Wazír Muhammad with heavy loss. He was hotly pursued as far as Hoshangábád; and, making a stand outside the town, his horse was killed under him. A rude stone figure of a horse still marks the spot. In this emergency, Wazír Muhammad mounted his celebrated tailless charger, Pankhráj (whence his name of Bándá Ghoreká Sawár), and escaped by leaping him over the battlement of the fort. The Nágpur army, however, failed in their attack upon the fort, and, after vainly besieging it, contented themselves with burning the town. In 1809, Hoshangábád was again assailed by a Nágpur force. The garrison held out for three months; but finding their communications with Bhopál cut off, and a battery erected against them on the north side of the river, they surrendered. Overcome by these disasters, Wazír Muhammad called in the Pindárí freebooters to his help; and till they were finally extirpated in 1817, the whole of this fertile region became a prey to ravage and massacre. Large tracts of country were laid entirely waste; and everywhere throughout the District the fruits of long years of industry were destroyed and dispersed. Under the

order which the British Government has restored, prosperity is gradually returning. In 1818, that part of the District which was held by Nágpur was ceded under an agreement, subsequently confirmed by the treaty of 1826. In 1844, the region of Hardá Handiá was made over by Sindhia at an estimated value of £14,000, in part payment of the Gwalior contingent; and by the treaty of 1860, it was permanently transferred, and became British territory. The Mutiny of 1857 failed to disturb English authority in Hoshangábád. There was some trouble with the police at Hardá; a petty chief rebelled in the Mahádeo Hills; and Tántia Topí crossed the valley in 1858.

Population.—A rough enumeration in 1866 returned the population of Hoshangabad at 440,433. The more careful Census of 1872 disclosed 440,186 persons, exclusive of the feudatory State of MAKRAI. The latest estimate, in 1877, indicates a total of 463,625. The Census of 1872 still remains, however, the only basis for a detailed examination of the people. It disclosed a population of 440,186 persons, on an area of 4222 square miles (which recent changes (1877) have increased to 4376 square miles); number of villages or townships, 1286; of houses, 87,463; persons per square mile, 104·26; villages per square mile, 0·3; houses per square mile, 20·72; persons per village, 342·29; persons per house, 5·04. Classified according to sex, the males numbered 231,195, the females, 208,991. The number of male children in 1877 was 89,132, and of girls, 79,675. Ethnical division in 1877—Europeans, 86; Eurasians, 10; aboriginal tribes, 89,029; Hindus, 364,679; Muhammadans, 21,765; Buddhists and Jains, 1132. The most numerous of the aboriginal tribes are the Gonds (57,946 in 1872) and Kúrkús (19,295), the remainder consisting of Bharias, Marias, etc. Among the Hindus, the Bráhmans in 1872 numbered 25,393, and the Rájputs, 28,689; the mass of the Hindu population consisting of —Dhers or Mhars, 39,173; Kunbís, 17,215; Lodhís, 13,323; Gújars, 24,759; Chamárs, 15,117; and other inferior castes. Native Christians in 1877, 224. There are only 4 towns in Hoshangábád District with a population exceeding 5000, viz. HOSHANGABAD, the District head-quarters, pop. (1877), 11,613; HARDA, 9170; SEONI, 7579; and SOHAGPUR, 7552. Number of townships with from 1000 to 5000 inhabitants, 47; number with from 200 to 1000, 623; villages containing fewer than 200 inhabitants, 612. The four largest towns are the only municipalities in Hoshangábád; they have a total population within municipal limits of 42,027, or nearly 10 per cent. of the District population.

Agriculture.—Of the total area of 4376 square miles, only 1442 are cultivated, and of the portion lying waste, 825 are returned as cultivable; 2455 acres are irrigated—entirely by private enterprise. The Government assessment is at the rate of 11d. per acre of cultivated land,

and 7½d. on the cultivable land. Wheat forms the staple crop of the District. The rich black soil of the valley throws up a rank abundance of weeds, which cannot be rooted up before the dry season; and consequently this soil is devoted almost entirely to cereals. These are raised without manure or irrigation; rotation of crops is not resorted to, nor is the land allowed to remain fallow. Only garden crops and sugar-cane are manured and watered. Since the American Civil War, cotton has been raised in increasing quantities on the higher soils. In 1873, the total area under cotton was 16,127 acres, which had increased by 1877 to 23,639 acres. The oxen bred in Hoshangábád are stout beasts, useful for heavy draught and for ploughing the deep black soil, but much inferior in pace and activity to the small Berar bullocks. Sheep come principally from Bundelkhand. The Census of 1872 showed a total of 1434 proprietors, of whom 785 were classed as 'inferior.' The tenants numbered about 48,000, of whom upwards of 21,000 had either absolute or occupancy rights, while 26,097 were tenants-at-will. In this District, as throughout the Narbadá valley, some estates have for generations belonged to petty chiefs, who have contrived to retain their ancestral domains through all the changes of times and dynasties down to the present day. Such are the Rájás of Fatehpur and Sobhápur, whose title dates back to the Gond princes of Mandla. For many generations, also, the petty hill chiefs in the Mahádeo Hills maintained a semi-independence of the rulers of Deogarh and Nágpur. But in 1818, when they raised their clans in support of Apá Sáhib, they were thoroughly subdued by the British troops. The English agents, however, continued the policy of maintaining these *tálukdárs* in their rights; and upon the recommendation of Sir R. Temple, late Chief Commissioner, the Government formally confirmed them in this position; with the exception of the *zamíndár* of Ráikherí, whose lands were confiscated in consequence of his share in the rebellion of 1858. The rent rates per acre of the different qualities of land are returned as follow:—Wheat, 3s.; inferior grain, 2s. 2d.; cotton, 3s.; sugar-cane, 4s.: the average produce per acre in lbs. being—wheat, 423; inferior grain, 322; cotton, 79; sugar (*gúr*), 158. The ordinary prices of produce are as follow:—Wheat, 5s. 3d. a cwt.; cotton, 31s. a cwt.; refined sugar, 11s. a cwt. The wages per diem of skilled labour average 1s. 3d., of unskilled labour, 4½d.

Commerce and Trade.—There are no manufactures of any note, and merely the ordinary handicrafts. The workers in brass have a local reputation. The coarser fabrics worn by the agricultural peasantry are still mainly supplied by the weavers of the District; although, since the demand for cotton in 1863-64 raised the price of the raw material, a large number of looms have ceased working. Hoshangábád does a considerable export trade in agricultural produce, receiving in return

English piece-goods, spices, and cocoa-nuts from the west, salt from Bhopál, and sugar by way of Mírzápur from the east. Owing to the railway, the trade of the District now tends to take the direction of Bombay.

The length of made roads in Hoshangábád is returned at 498 miles. The high road to Bombay, which runs right through the District from east to west, is only aligned in parts, and nowhere well embanked or drained. The line from Hoshangábád towards Betúl, which passes the railway station at Itársí, is the best road in the District. That from Hardá to Handiá, the old high road from the Deccan to Agra in the days of the Mughals, is little better than a well-defined track; while the other roads in the District are merely fair-weather routes, of which those from Seoni and Hardá towards Betúl are perhaps the best. The Great Indian Peninsula Railway intersects the whole District from west to east, with stations at Bágrá, Hardá, Seoni, Itársí, Sohágpur, and Bankherí. It crosses the Tawa by a viaduct at the opening of the gorge through which the river issues from the Sátpuras; and a short tunnel carries it under a projection of the hill close by. Besides roads and railway, the Narbadá, Tawa, Denwa, and Ganjál supply means of communication by water for 150 miles during part of the year.

Administration.—In 1861, Hoshangábád was formed into a separate District of the British Government of the Central Provinces. It is administered by a Deputy Commissioner, with Assistants and *tahsíldárs.* Total revenue in 1876-77, £69,842, of which the land revenue yielded £42,813. Total cost of District officials and police of all kinds, £14,733. Number of civil and revenue judges of all sorts within the District, 11; magistrates, 22. Maximum distance from any village to the nearest court, 55 miles; average distance, 14 miles. Number of police, 582, costing £7027; being 1 policeman to about every 8 square miles and to 884 inhabitants. The daily average number of convicts in jail in the year 1876 was 148, of whom 10 were females. The total cost of the jail in that year was £1250. The number of Government or aided schools in the District under Government inspection was 94, attended by 4024 pupils. Of the 4 municipalities during the year 1876-77—Hoshangábád, with a population within municipal limits of 16,240, had an income of £1739, of which £1477 was derived from taxation, being at the rate of 1s. 9d. per head of the population; Seoni, with a population of 8042, had an income of £1127, of which £991 was derived from taxation, being 2s. 5d. per head; Hardá (pop. 9731) had an income of £1782, of which £1574 was derived from taxation, being 3s. 2d. per head; and Sohágpur (pop. 8014) had an income of £463, of which £451 was derived from taxation, being 1s. 2d. per head.

Medical Aspects.—The District is generally free from violent alterna-

tions of temperature; hot winds are rare, and the nights during the sultry weather and rains are always cool. The cold weather is seldom severe. In 1876, the temperature in the shade at the civil station, Hoshangabad, was recorded as follows:—May, highest reading 113° F., lowest 71° F.; July, highest reading 100° F., lowest 71° F.; December, highest reading 83° F., lowest 48° F. The rainfall is exceedingly variable, ranging between the limits of 40 and 60 inches in the year. In 1876, it was 48·16 inches. The winter rains, however, are very regular; and, according to a local tradition, there have been famines from too much rain, but never from drought. Owing to its position as a long valley between two great mountain ranges, Hoshangábád is subject to violent atmospheric influences; and the harvest is seldom gathered without hailstorms and thunder-showers. The prevailing diseases of the District are fevers and bowel complaints. In 1876, five charitable dispensaries afforded medical relief to 18,206 in-door and out-door patients. During the five previous years, the ascertained deaths per annum averaged 23·21 per thousand of the population.

Hoshangábád.—The north-eastern *tahsíl* or revenue Subdivision of Hoshangábád District, Central Provinces, lying between 21° 41′ and 22° 59′ N. lat., and between 76° 38′ and 78° 44′ E. long. Pop. (1872), 140,303; number of villages or townships, 331—of houses, 28,842; area, 671 square miles.

Hoshangábád. — Headquarters town of Hoshangábád District, Central Provinces. Lat. 20° 45′ 30″ N., long. 77° 46′ E.; situated on the south side of the Narbadá (Nerbudda), on the road from Bhopál to Betúl and Nágpur, and the high road to Bombay; though the greater part of the through traffic passes by a shorter route 5 miles to the south. The railway lies 11 miles off, the nearest station being Itársí on the Betúl road. Pop. (1877), 11,613. The supposed founder, Hoshang Sháh, the second of the Ghorí kings of Málwá (referred by Prinsep to A.D. 1405), died and was buried in the town, but his bones were subsequently removed to Mándú. Hoshangábád remained insignificant till the Bhopál conquest, about 1720, when a massive stone fort was constructed, with its base on the river, commanding the Bhopál road. It sustained several sieges, and passed alternately into the hands of the Bhopál and Nágpur troops (*see* HOSHANGABAD DISTRICT). The materials have since been mostly removed piecemeal. In 1817, General Adams occupied the town, and threw up some earthworks outside it. From 1818, Hoshangábád has been the residence of the chief British official in charge of the District, and lately it has been made the headquarters of the Narbadá Division. A church has been built, and a first-class jail constructed. The town has a dispensary, and school-houses. It forms the chief seat of the English piece-goods trade of the District, and does a brisk business in cotton, grain, and bills of exchange. Has a good

bázár, with some petty shops, at which European articles are sold. The wing of a Native Infantry regiment is stationed here.

Hoshiárpur.—A British District in the Lieutenant-Governorship of the Punjab, lying between 30° 58′ and 32° 5′ N. lat., and between 75° 31′ and 76° 41′ 15″ E. long. Area, 2086 square miles; population (1868), 938,890 persons. Hoshiárpur forms the central District of the Jalandhar (Jullundur) Division. It is bounded on the north-east by the District of Kángra and the Native State of Nálagarh; on the north and north-west by the river Beas (Biás); on the south-west by Jalandhar (Jullundur); and on the south by the river Sutlej (Satlaj) and Umballa (Ambála) District. The administrative headquarters are at the town of HOSHIARPUR.

Physical Aspects.—The District of Hoshiárpur falls into two nearly equal portions of hill and plain country. Its eastern face consists of the westward slope of the Kángra Mountains, a range of the outer Himálayan system. Parallel with that great ridge, a line of lower heights traverses the District from south to north; while between the two chains a valley of uneven width, known as the Jaswán Dún, separates the outermost line from the Himálayan spurs. The external range, which composes the backbone of the District, belongs geologically to the tertiary system, being mainly formed of sandstone and conglomerate; while orographically it may be regarded as a continuation of the Siwálik chain in Náhan and the Gangetic Doáb. It consists in its southern portion of sandy hillocks, opening out into undulating plateaux, which rarely permit of cultivation. Northward, the table-lands split up into broken spurs, still perfectly barren, or interspersed with patches of forest. As the range subsides near its northern extremity, the sandy levels pass into a stony but cultivable soil. East of this long Siwálik ridge, the open valley of the Jaswán Dún corresponds to the Khiárda Dún of Náhan and the Dehra Dún of the Gangetic uplands. Its upper portion is traversed by the Soán torrent; while the Sutlej (Satlaj) sweeps into its lower end by a break in the hills a few miles south of Una, and flows in a southerly direction till it turns the flank of the central range, and debouches westward upon the plains. The Himálayan shoulders which shut in the Jaswán Dún to the east, are known as the Chint-purni and Nálagarh mountains. Westward from the foot of the Siwálik Hills stretches the plain portion of the District. It consists throughout of alluvial formation, with a gentle westerly slope, produced by the deposit of silt from the mountain torrents in the submontane tract. Near the hills, sand covers the face of the country; but in the lower slopes a rich soil occurs, fertilized by the fresh loam and by the general moisture of the climate. The Beas (Biás), on the extreme north-west, has a fringe of lowland (*khádar*), exposed to moderate but not excessive inundations, and considered as

fertile as any similar tract along the river bank. Here large areas produce two crops a year—wheat in the spring, and Indian corn in the autumn; while sugar-cane and tobacco flourish on the rich soil of mingled sand and loam. Rice of superior quality is also produced in a marshy tract between the Beas (Biás) and the town of Dasúya. A considerable area in the District is covered by Government woodlands under the care of the Forest Department.

History.—Before the advent of the Muhammadan power, the country around Hoshiárpur formed part of the Katoch kingdom of JALANDHAR (JULLUNDUR). When that ancient Rájput State broke up into minor principalities, the present District was partially divided between the Rájás of Jaswán and Ditárpur. The origin of the former kingdom dates back beyond the dawn of the historic period; but the foundation of Ditárpur took place as recently as the 16th century. At that time, according to tradition, the Katoch princes of Kángra treacherously occupied the submontane country of Hoshiárpur, and fixed their capital at Ditárpur. The native Rájás of the two petty States retained undisturbed possession of their territories until A.D. 1759, when the rising Síkh chieftains who had already established themselves in the lowlands, commenced a series of encroachments upon the hill tracts. The Jaswán Rájá early lost a portion of his dominions; and when Ranjít Sinh concentrated the whole Síkh power into his own Government, both the petty Katoch chiefs were compelled to acknowledge the supremacy of Lahore. At last, in 1815, the aggressive Mahárájá forced the ruler of Jaswán to resign his territories in exchange for an estate held on feudal tenure (*jágír*); while three years later his neighbour of Ditárpur met with similar treatment. Meanwhile, the plain portion of the District had also passed into the hands of Síkh adventurers, who ultimately fell, like their brethren, before the absorbing power of Ranjít Sinh. By the close of the year 1818, the whole country from the Sutlej to the Beas had come under the Government of Lahore. A small portion of the District was administered by deputies of the Síkh governors at Jalandhar; but in the hills and the Jaswán Dún, Ranjít Sinh assigned most of his conquests to feudal rulers (*jágírdárs*), amongst whom were the deposed Rájás of Ditárpur and Jaswán, the Sodhis of Anandpur, and the Síkh priest, Bedi Bíkráma Sinh, whose headquarters were fixed at Una. Below the Siwálik Hills, Sher Sinh (afterwards Mahárájá) held Hájipur and Mukerián, with a large tract of country; while other great tributaries received assignments elsewhere in the lowland region. Sandi Khán, a deputy of the Jalandhar governor, had charge of Hoshiárpur at the date of the British annexation. After the close of the first Síkh war in 1846, the whole tongue of land between the Sutlej and the Beas, together with the hills now constituting Kángra District, passed into the hands of our Government. The deposed

Rájás of Ditárpur and Jaswán received cash pensions from the new rulers, in addition to the estates granted by Ranjít Sinh; but they expressed bitter disappointment that they were not actually restored to their former sovereign positions. The whole of Bedi Bikráma Sinh's grant was resumed, and a pension was offered for his maintenance, but indignantly refused; while part of the Sodhi estates were also taken back. Accordingly the outbreak of the Múltán (Mooltan) war and the revolt of Chattar Sinh, in 1848, found the disaffected chieftains ready for rebellion, and gave them an opportunity for rising against the British power. In connection with the Kángra Rájás, they organized a revolt, which, however, was soon put down without serious difficulty. The two Rájás and the other ringleaders fell into our hands, and their estates were confiscated. Rájá Jagat Sinh of Ditárpur still lives at Benares on a pension from the British Government. Umed Sinh of Jaswán received a similar allowance; and his grandson, Rám Sinh, is now permitted to reside at Jammu (Jummoo), in receipt of his pension. Bedi Bikráma Sinh followed Chattar Sinh at Guzerat, but surrendered at the close of the war, and obtained leave to reside at Amritsar. His son, Suján Sinh, also receives Government aid. Numerous other local chieftains still retain estates in the District, the most noticeable being the Ránás of Mánaswál and the Ráis of Bibhor. The sacred family of the Sodhis, lineal descendants of Rám Dás, the fourth Síkh Guru, enjoy large properties in the neighbourhood of Anandpur.

Population.—The Census of 1855 returned the total number of inhabitants at 845,354, with an average density of 383 persons per square mile. The enumeration of 1868 exhibits an increase of 93,436, or 11·05 per cent.; but as the area had considerably decreased in the interval, these figures do not adequately represent the real gain to the population, which the returns of density show to be at the rate of 17·23 per cent. The Census of 1868 was taken over an area of 2086 square miles, and disclosed a total population of 938,890 persons, distributed among 2184 villages or townships, and inhabiting 208,050 houses. From these data the following averages may be deduced:—Persons per square mile, 450; villages per square mile, 1·05; houses per square mile, 99·72; persons per village, 429; persons per house, 4·51. Classified according to sex, there were—males, 504,393; females, 434,497; proportion of males, 53·72 per cent. Classified according to age, there were, under 12 years—males, 181,067; females, 156,878; total, 337,945, or 35·99 per cent. of the whole population. As regards religious distinctions, the Hindus numbered 415,471, or 44·25 per cent.; Muhammadans, 317,967, or 33·86 per cent.; Síkhs, 79,417, or 8·46 per cent.; and 'others,' 126,035, or 13·42 per cent. The ethnical division shows the following results:—Among the Hindus and Síkhs, Bráhmans numbered 76,821; Rájputs, 47,464; Kshattriyas, 21,784;

Baniás, 1493; Aroras, 386; Játs, 112,789; Gújars, 21,543: among the Muhammadans, there were 3977 Sayyids, 843 Mughals, 8733 Patháns, 145 Balúchís, 37,522 Rájputs, 31,262 Játs, and 45,893 Gújars. The Játs form the most numerous tribe in the District, composing 42 per cent. of the proprietary body, and paying 38 per cent. of the land revenue. They abound in the plains, and are excellent cultivators. The Rájputs altogether compose 25 per cent. of the proprietary body, and pay 32 per cent. of the land revenue. As cultivators, they are inferior to the Játs, generally letting out their small farms to tenants, and living themselves on a bare pittance of rent. The Siwálik chain makes a line of demarcation between the two great creeds; the Rájputs of the hills and the Jaswán Dún retain the faith of their ancestors, those of the plain have generally adopted the religion of Islám. The Bráhmans engage for the most part in agriculture or trade. The District contained 9 municipalities in 1875-76—namely, HOSHIARPUR (pop. 21,307), URMAR TANDA (13,970), MUKERIAN (5116), DASUYA (8677), ANANDPUR (6405), HARIANA (7802), GARHDIWALA (3874), UNA (4908), and MIANI (7942). The Census of 1868 also returns the population of GARHSHANKAR at 5775.

Agriculture. — The cultivated area in 1868 amounted to 751,707 acres, out of an assessed total of 1,335,245 acres. The plain portion of the District differs little in its agricultural capabilities from the neighbouring lowlands of Jalandhar (Jullundur), the only peculiarity being that rice is more largely grown in Hoshiárpur, owing to the abundance of marshy flats along the banks of the Beas (Biás) and in the beds of the Siwálik torrents. The other staple food grains comprise wheat, barley, gram, and maize. Millet (*joár*) is chiefly grown for fodder, and cut while green. Sugar-cane is produced as a commercial crop, in quantities sufficient for exportation; but the cotton grown does not exceed the local demand. Fibres and indigo form unimportant items of the harvest; tobacco is raised for the supply of the hill tract. The following list shows the area under each crop in 1871-72:—*Rabí* or spring harvest—wheat, 319,420 acres; barley, 83,112 acres; gram, 37,200 acres; tobacco, 5962 acres: *kharíf* or autumn harvest—rice, 75,556 acres; *joár*, 37,170 acres; maize, 58,020 acres; *moth*, 20,225 acres; *mash*, 46,360 acres; cotton, 24,937 acres; sugar-cane, 32,668 acres. The state of agricultural knowledge is very backward. The implements are of the simplest description, manure is employed only in the immediate vicinity of towns and villages, the ground seldom lies fallow, no area is set aside for grazing, and the cattle are of the poorest sort. Only 17,836 acres are returned as under irrigation, chiefly from an old canal in the northern corner. Nevertheless, improvements make slow but steady progress, the use of manure becoming more frequent, and the acreage under the superior crops increasing from year

to year. In the hill portion of the District, most of the land still remains the property of joint shareholders; but in the plains the communal tenure has generally given way to separate possession. More than half the tenants possess rights of occupancy. Rates of rent vary with the crops which the soil is fitted to produce. Rice lands bring in from 4s. 0⅝d. to £2, 1s. 9d. per acre; wheat lands from 8⅛d. (worst dry soil) to £2, 17s. (best irrigated); sugar-cane lands rise as high as £5, 14s. Cash wages are almost unknown, except in the immediate vicinity of the towns; and they seldom exceed 3d. per diem for unskilled labour. In villages, labourers receive payment in kind,—during harvest, a sheaf of corn daily in addition to their food; at other seasons, their food alone. Prices of food grains ruled as follows in 1873:—Wheat, 23 *sers* per rupee, or 4s. 10d. per cwt.; barley, 36 *sers* per rupee, or 3s. 1d. per cwt.; *joár*, 28 *sers* per rupee, or 4s. per cwt.; *bájra*, 24 *sers* per rupee, or 4s. 8d. per cwt.; and rice, 8 *sers* per rupee, or 14s. per cwt.

Commerce and Trade, etc.—The trade of Hoshiárpur is chiefly confined to its raw material, including grain, sugar, hemp, safflower, fibres, tobacco, indigo, and cotton. Of these, sugar forms by far the most important commercial item. The cane grows in various portions of the plains, and the sugar is refined in the larger towns, and exported to all parts of the Punjab, and especially to Amritsar. The grain produced scarcely exceeds the local demand, and the surplus is not exported at once, but hoarded up against the occurrence of famine in less favoured Districts, when it is sent to the most favourable market. The manufactures comprise scarves, shoes, rope, and blankets, none of them of any importance. A great religious fair at Anandpur, the headquarters of the Nihang sect of Síkhs, attracts an enormous concourse of people. The Mukerián fair draws together about 40,000 visitors; and the three at Achintpurni, 15,000, 50,000, and 55,000 respectively. The District contains no railway or telegraph. The Jalandhar and Kángra road, which crosses the Siwáliks and the Jaswán Dún, forms the chief route; and good roads connect Hoshiárpur and other centres with the neighbouring towns. The only printing establishment in the District is a lithographic press at the headquarters town.

Administration.—In 1851-52, the total imperial revenue amounted to £125,546. By 1872-73, it had risen to £148,708; of which sum the land tax contributed £127,955, or more than six-sevenths. The only other item of importance is that of stamps. In addition to this amount, a local revenue of £14,856 was raised for expenditure on works of public utility within the District. The incidence of the land revenue per acre is higher in Hoshiárpur than in any other Punjab District, except Jullundur (Jalandhar). During 1872-73, 15 civil and revenue judges exercised jurisdiction in the District. The imperial

police force included 395 officers and men, supplemented by a municipal constabulary of 103 men. These figures show a total regular police of 498 persons, being at the rate of 1 policeman to every 4·18 square miles of area and every 1885 of the population. The village watchmen (*chaukídárs*) numbered 1680 men. The District jail at Hoshiárpur received 403 prisoners; daily average, 35·70. Education was carried on by means of 321 schools, having a joint roll of 7066 pupils. The total expenditure from public funds under this head amounted to £2291. For fiscal and administrative purposes, the District is divided into 4 *tahsíls*, comprising 2068 villages, owned by 80,946 shareholders. The revenue of the 9 municipalities in 1875-76 amounted to £4232, or 1s. 0⅝d. per head of the population (80,001 souls) within municipal limits.

Medical Aspects.—The District, owing to its proximity to the hills, possesses a comparatively cool and humid climate; but no record of temperature exists. The annual rainfall was 28 inches in 1869-70, 35·5 inches in 1870-71, and 32·6 inches in 1871-72. Malarious fever prevails in an endemic form, and cholera frequently appears as an epidemic. Bowel complaints also cause much mortality. The total number of deaths recorded in 1872 amounted to 27,981, or 30 per thousand of the population. The average death-rate for the four previous years was 27 per thousand. There are charitable dispensaries at Hoshiárpur, Dasúya, Una, Garhshankar, and Anandpur.

Hoshiárpur.—Central *tahsíl* of Hoshiárpur District, Punjab, consisting chiefly of a fertile and well-watered plain; lying between 31° 15′ 30″ and 31° 40′ N. lat., and between 75° 47′ 30″ and 76° 12′ E. long. Area, 478 square miles; number of villages, 504; pop. (1868), 250,036; persons per square mile, 524.

Hoshiárpur.—Chief town and administrative headquarters of Hoshiárpur District, Punjab. Lat. 31° 32′ 13″ N., long. 75° 57′ 17″ E.; pop. (1868), 13,022, consisting of 6350 Hindus, 6002 Muhammadans, 119 Síkhs, 62 Christians, and 489 'others.' Situated on the bank of a broad sandy torrent, about 5 miles from the foot of the Siwálik Hills. Founded, according to tradition, about the early part of the 14th century. Occupied during the Síkh period by the chiefs of the Fáizalpuria confederacy, from whom it was taken by Ranjít Sinh in 1809. The Mahárájá and his successors maintained a considerable cantonment 1 mile south-east of the town, and the British Government continued to keep it up for several years after the annexation. Floods often cause much damage, to obviate which an embankment was raised in 1852. The smaller streets consist chiefly of narrow *culs-de-sac*, but one wide thoroughfare traverses the centre of the town. The civil station contains the District court-house and treasury, sessions house, *tahsíl* and police offices, dispensary, staging bungalow, and *sarái.*

Both station and town are plentifully wooded, and enjoy a good sanitary reputation. Trade in grain, sugar, and tobacco. Manufacture of country cloth. Municipal revenue in 1875-76, chiefly from octroi, £2455, or 2s. 3½d. per head of population (21,307) within municipal limits.

Hoskot.—*Táluk* in Bangalore District, Mysore. Area, 401 square miles; pop. (1871), 69,885, including 3437 Muhammadans, 2 Jains, and 123 Christians; land revenue (1874-75), exclusive of water rates, £8783, or 2s. 0½d. per head. Among special crops, are potatoes and poppy.

Hoskot (*Hoskot*, 'New Fort').—Municipal town in Bangalore District, Mysore; on the left bank of the South Pinákini, 18 miles east-north-east of Bangalore. Lat. 13° 4′ 50″ N., long. 77° 49′ 40″ E.; pop. (1871), 4508; municipal revenue (1874-75), £48; rate of taxation, 2½d. per head. Founded about 1595 by a local chieftain, attracted by the fertility of the soil and the advantages of irrigation. A tank with an embankment 2 miles long forms, when full, a sheet of water 10 miles in circumference. Two religious gatherings are held in the year, each attended by about 5000 persons. Headquarters of the *táluk* of the same name.

Hospet ('*New Town*').—Town in Bellary District, Madras; situated in lat. 15° 15′ 40″ N., and long. 76° 26′ E., about 50 miles north-west of Bellary. Pop. (1871), 10,005; number of houses, 2311. A *kasbá* town with sub-magistrate's and *munsif's* court, school, dispensary, and 2 fine temples. Inhabitants chiefly weavers. The old fort has been levelled.

Hosúr.—Town in Kolár District, Mysore. Pop. (1871), 5751, of whom 5542 are Hindus. Weekly fair held on Saturday, attended by 300 persons.

Hoti-Mardán.—Cantonment in Pesháwar District, Punjab, and headquarters of the Yusafzái *tahsíl;* situated in lat. 34° 11′ 15″ N., and long. 72° 6′ E., on the right bank of the Chalpáni river, 16 miles north of Naushahra (Nowshera), and 33 miles north-east of Pesháwar. Derives its name from the two villages of Mardán and Hoti, which occupy the banks of the Chalpáni immediately below the cantonment. Contains the lines of the Corps of Guides, whose headquarters are permanently fixed at this point. Small fort, occupied by a portion of the corps. The civil lines lie a little south on the Naushahra road, and contain the *tahsíli*, police station, post and telegraph offices, Government charitable dispensary, and other public offices. An Assistant Commissioner, deputed from Pesháwar, usually resides at Hoti-Mardán, in charge of the Yusafzái *tahsíl.* The ravine of the Chalpáni is very deep opposite the station, and the stream has a tendency to encroach on the cantonment.

Houng-tharaw.—River in Amherst District, Tenasserim Division, British Burma. It rises in Siamese territory east of the Province, and flows through the range of mountains forming the boundary between the two countries. Crossing the frontier in lat. 15° 55′ N., and long. 99° E., it rushes with great velocity between high and scarped banks amongst mountains clothed with dense forest, which gradually gives place to feathery bamboos and elephant grass. Near Gyaing, where the Houng-tharaw joins the Hlaing-bhwai, patches of cultivation appear on the banks, and the country gradually becomes lower. The Houng-tharaw is navigable by boats for some distance beyond Mítan, 80 miles from Maulmain.

Houng-tharaw. — Township in Amherst District, Tenasserim Division, British Burma. The country is mountainous, and densely wooded with valuable timber. The chief river is the HOUNG-THARAW, forming the western boundary of the township. Cultivation is carried on principally on the *toungya* or hill system. Large numbers of cattle are annually imported from Siam, the route used being that from Myawadi to Kaw-ka-riet, the headquarters of the township. In 1876, the population was 11,625, chiefly Kareng; the land revenue amounted to £224, and the capitation tax yielded £957.

Howrah (*Haura*).—Sub-district of HUGLI DISTRICT, Bengal, with independent magisterial jurisdiction, lying between 22° 13′ 15″ and 22° 47′ N. lat., and between 87° 47′ and 88° 24′ 15″ E. long. The magisterial District of Howrah was created in 1841, when the following five police circles (*thánás*) were withdrawn from the magisterial jurisdiction of Húglí, and incorporated into the magistracy of Howrah—viz. Rájápur (now called Jagat-ballabhpur), Amptá, Kotrá (now called Syámpur), Bághnán, and Ulubáriá. The Howrah Sub-district, thus constituted, forms a triangular tract in the south of Húglí. It is bounded on the north by an arbitrary line running in a westerly direction from the mouth of the Bálí *khál*, passing north of the village of Bálí on the Húglí, to the Dámodar river; thence about 8 miles up that river, and thence again west to the Rúpnáráyan; on the west and south the Rúpnáráyan forms the boundary, with the exception of a small portion of Mandalghát *parganá*, which extends on both sides of the river; to the east the Húglí river marks the boundary line. Howrah is divided into 2 Subdivisions, Howrah and Mahishrekha, containing a combined area of 639 square miles, with 1426 villages or towns, 137,221 houses, and a population (1872) thus made up:—Hindus, 593,800, or 81·2 per cent. of the population; Muhammadans, 135,261, or 18·5 per cent.; Christians, 1594, or ·3 per cent.; 'others,' 402; total, 731,057, viz. 356,342 males and 374,715 females. Proportion of males, 48·7 per cent.; average density of population, 1144 per square mile; villages per square mile, 2·2; persons per village, 512; houses per square mile,

215; persons per house, 5·3. In all respects save that of magisterial jurisdiction, Howrah forms a portion of HUGLI DISTRICT.

Howrah.—Subdivision of Húglí-cum-Howrah District, Bengal, lying between 22° 30′ and 22° 41′ 30″ N. lat., and between 88° 5′ 45″ and 88° 24′ 15″ E. long. Area, 171 square miles, with 298 villages or towns, 57,667 houses, and a population (1872) thus made up:—Hindus, 235,973, or 79·5 per cent.; Muhammadans, 59,148, or 19·9 per cent.; Christians, 1570, or ·5 per cent.; 'others,' 373, or ·1 per cent.; total, 297,064, viz. 151,114 males and 145,950 females. Proportion of males, 50·9; average density of population, 1737 per square mile; villages per square mile, 1·74; persons per village, 997 (including the large town of Howrah in the average); houses per square mile, 337; inmates per house, 5·2. This Subdivision, which was created in 1843, comprises the 3 police circles (*thánás*) of Howrah, Dumjor, and Jagat-ballabhpur.

Howrah.—The largest and most important town in the District of Húglí-cum-Howrah, and the headquarters of the magisterial District of Howrah; is situated on the right bank of the Húglí river, opposite Calcutta, and forms a suburb of that city. Lat. 22° 35′ 16″ N., long. 88° 23′ 12″ E. At the end of last century, Howrah is described in the Board of Revenue's records as a small village; and in 1785, it was held by a Mr. Lovett, who petitioned the Board to be allowed to relinquish it. Since that time, it has risen and prospered, with the growth of Calcutta, and is now a large town, with a Magistrate, subordinate judge, etc. of its own. The total area of Howrah and its suburbs, comprised within municipal limits, is 11·05 square miles, and its population is thus returned in the Census of 1872:—Hindus, 42,718 males and 36,617 females—total, 79,335; Muhammadans, 10,341 males and 6270 females—total, 16,611; Christians, 783 males and 701 females—total, 1484; 'others,' 256 males and 98 females—total, 354: total of all denominations—54,098 males and 43,686 females; grand total, 97,784, dwelling in 21,491 houses; average of persons per house, 4·5. The excess of males over females is explained by the fact, that the population includes a large number of artisans and labourers who come from the rural parts, and do not bring their families with them. In 1871-72, the gross municipal income of Howrah, including balances and collections on account of arrears of the previous year, amounted to £20,654, and the expenditure to £16,305. Excluding balances and collections of arrears, the net municipal income of the year amounted to £13,994, or at an average rate of 2s. 10¼d. per head of the town population. Howrah was one of the towns in which special educational statistics were collected by means of the Census returns. The results were very satisfactory, showing that 21·04 per cent. of the total male population of all ages, or 12·50 per cent. of the total male and female population, were able to read and write or were under instruction.

The town of Howrah is lighted with gas; it contains several large and important dockyards, and is also the Bengal terminus of the East Indian Railway. Mills and manufactories of various sorts are rapidly developing. Communication with Calcutta is carried on by means of a massive pontoon or floating bridge, which was opened for traffic in 1873-74. Howrah is also a suburban residence for many people who have their place of business in Calcutta. The suburbs of Howrah are Síbpur and Rámkrishnapur to the south, and Salkhiá to the north. Síbpur, situated opposite Fort-William, was a small village at the commencement of the century, but is now a flourishing little town, inhabited chiefly by clerks employed in Government or mercantile offices in Calcutta. On the river side, it contains a manufactory known as the Albion Works, consisting of a flour mill and a distillery; also a dockyard and a saw-mill. To the south of Síbpur lie the Royal Botanical Gardens and Bishop's College.

Hpa-an.—Revenue circle on the left bank of the Salwín, in Amherst District, Tenasserim Division, British Burma. Pop. (1876), 2746; gross revenue, £505.

Hpa-gat.—Township in Amherst District, Tenasserim Division, British Burma. It occupies the tract lying between the Salwín river on the east and the Dúnthamie and Bhenglaing on the west, and comprises the 3 revenue circles of Myaing-gyí, Myaing-gale, and Bhenglaing. In the north, the country is hilly and densely wooded; in the south, it is undulating and broken by stretches of low, marshy land. Tobacco is extensively grown in this latter portion. The headquarters are at HPA-GAT. Pop. of the township in 1876, 9192; land revenue, £537; capitation tax, £811.

Hpa-gat.—Village in Amherst District, British Burma, and headquarters of the township of the same name; situated on the right bank of the Salwín (Salween), 30 miles from Maulmain. Just to the north of the village are some limestone rocks, containing a large cave, with numerous images of all sizes of Gautama Buddha and of Rahan. Most of these have been much damaged by the natives of India and others, who resort to the cave to collect the bats' dung for manure.

Hpa-gú Anouk.—Revenue circle extending eastwards from the left bank of the Pegu river, in Rangoon District, Pegu Division, British Burma. Pop. (1876), 4830; gross revenue, £3169.

Hpa-gú Ashe.—Revenue circle at the mouth of the Tsittoung river, in Rangoon District, Pegu Division, British Burma. Pop. (1876), 3020; gross revenue, £3090.

Hpai-kha-ta.—Revenue circle on the left bank of the Salwín, in Amherst District, Tenasserim Division, British Burma. Pop. (1876), 2253, chiefly Talaing; land revenue, £311; capitation tax, £237.

Hpan-kha-beng.—Revenue circle on the left bank of the Irawadi,

in Henzada District, Pegu Division, British Burma. Pop. (1876), 7049; gross revenue, £1847. The Hpan-kha-beng Lake, in the centre of this tract, is valuable as a fishery.

Hpa-ouk.—Revenue circle between the Toung-gnyo Hills and the Salwín, in Amherst District, Tenasserim Division, British Burma. The country consists of upland tracts, alluvial plains, and swampy ground. Pop. (1876), 2847; land revenue, £801; capitation tax, £258.

Hpoung-gyí (*-gyee*).—Revenue circle in Rangoon District, Pegu Division, British Burma. The country consists of low laterite hills, covered with forests of bamboo, *ka-gnyeng* (Dipterocarpus alatus), *bhan-bhwai* (Careya arborea), *htouk-sha* (Vitex leucoxylon), *nabai* (Odina wodier), *gyo* (Schleichera trijuga), etc. Pop. (1876), 3881; gross revenue, £1447.

Hpoung-leng.—The most northern township of Rangoon District, Pegu Division, British Burma; lying between 16° 45′ and 17° 33′ N. lat., and between 96° 5′ and 96° 20′ E. long., and extending from the bank of the Pegu river northward along the Pú-zwon-doung valley to the lower slopes of the Pegu Yomas, which are covered with valuable forests, containing teak, *pyeng-gado, pyeng-ma, eng*, etc. Area, 880 square miles. Towards the south, the country is well cultivated with rice, and intersected by numerous creeks, falling into the Pegu and Pú-zwon-doung rivers, the latter of which is navigable throughout its whole length in this township. The road to Pegu traverses Hpoung-leng. Pop. (1876), 34,477; gross revenue, £21,251. The headquarters are at Hlay-gú, on the Pú-zwon-doung river and the Rangoon and Pegu road, 28 miles distant from Rangoon.

Hpyouk-tshiep.—The southern portion of Shwe-doung township, Prome District, Pegu Division, British Burma. It is 7 miles below Prome, on the left bank of the Irawadi. Pop. (1876), 8356.

Hpyú (*Hypoo*).—River in Toung-gnú District, Tenasserim Division, British Burma. It rises in the eastern slopes of the Pegu Yomas, and, after a south-easterly course of about 70 miles, falls into the Tsittoung 28 miles south of Toung-gnú. The first 56 miles are through a narrow mountain gorge; during the last 5 or 6 miles of its course, this river is a series of rapids rushing through narrow channels between high walls of rock. The slopes of the hills drained by the Hpyú are covered with dry open forest of teak, *pyeng-gado*, climbing bamboos, *theng-gan*, *ka-gnyeng*, oak (Quercus brandisiana), and other 'green forest' trees. During the rains, boats can ascend as far as Meng-lan, and at this season a considerable quantity of timber and raw silk are brought down to the Tsittoung for conveyance to the local markets.

Htan-daw-gyí.—Revenue circle in Rangoon District, Pegu Division, British Burma; situated in the hilly country lying to the south-east of the Pegu river. The chief trees found here are teak,

pyeng-gado, *pyeng-ma*, and *ka-gnyeng*; game—elephant, deer, tiger, and hog. Pop. (1876), 3844; land revenue, £353; capitation tax, £424.

Htan-le-beng (1).—Revenue circle in Henzada District, Pegu Division, British Burma. Extensive rice cultivation. Pop. (1876), 2791; gross revenue, £758.

Htan-le-beng (2).—Revenue circle in Bassein District, Pegu Division, British Burma. Area, 109 square miles; pop. (1876), 6662; gross revenue, £3197. The country is low, and enclosed between the rivers Pan-ma-wadi and Myoung-mya on the east, west, and south; it is intersected by numerous unimportant creeks, the chief one being navigable only 10 miles from its mouth.

Htan-ma-naing.—Revenue circle in Rangoon District, Pegu Division, British Burma. Area, 92 square miles; pop. (1876), 2678. The chief manufacture is salt-making, the pans occupying 1580 acres. The country is fertile in parts, but agriculture is neglected. Gross revenue (1876), £2370.

Htan-pa-daing.—Revenue circle in Amherst District, Tenasserim Division, British Burma. Pop. (1876), 4178; land revenue, £425; capitation tax, £415.

Htan-ta-beng.—Revenue circle in Rangoon District, Pegu Division, British Burma. A part of the country is under rice, and the rest covered with grass and tree forest. Pop. (1877), 3913, chiefly engaged in fishing and agriculture; gross revenue (1876), £1702.

Htan-thún-beng.—Revenue circle in Henzada District, Pegu Division, British Burma. A large area of this circle is under rice. Pop. (1876), 6080; gross revenue, £1896.

Htan-zeng-hla.—Revenue circle in Bassein District, Pegu Division, British Burma; consisting of a narrow strip of level country (area, 27 square miles), lying along the left bank of the river Htan-zeng-hla. Towards the north there is a ridge of elevated land. Pop. (1876), 2856, chiefly engaged in fishing; gross revenue, £1434.

Htien-daw.—Revenue circle in Henzada District, Pegu Division, British Burma; situated on the east bank of the Irawadi. The central portion of the country is under rice. Pop. (1876), 8191; gross revenue, £1425.

Htí-tshwai.—Revenue circle in Akyab District, Arakan Division, British Burma. Pop. (1876), 3294; gross revenue, £869.

Htouk-ma.—Revenue circle in Thayet District, Tenasserim Division, British Burma; lying on the bank of the Irawadi; shut in on the north and west by the Kyouk-pún Hill, and on the south by the Toung-mouk-theng-gan spur, the southern boundary of the District. Pop. (1876), 3182; gross revenue, £688.

Htú-aing (*Htoo-aing*).—Revenue circle in Amherst District, Tenas-

serim Division, British Burma; situated on the left bank of the Salwín river, opposite the mouth of the Bheng-laing in a well-cultivated tract of country. Pop. (1876), 3806, chiefly Talaing; land revenue, £491; capitation tax, £394.

Htun-bho.—Revenue circle in Prome District, Pegu Division, British Burma; situated on the Irawadi between the Kha-wa stream on the east and Henzada District on the west. Pop. (1876), 4185; gross revenue, £899.

Htún-ta-lút.—Revenue circle, lying on the right bank of the Irawadi, in Za-lwon township District, British Burma. Pop. (1876), 4458; gross revenue, £1516.

Hubli. — Chief town of the Subdivision of the same name in Dhárwár District, Bombay. Lat. 15° 20′ N., long. 75° 12′ E. Situated 13 miles south-east of Dhárwár, on the main road from Poona to Harihar; distant 230 miles south-east from Poona, 142 miles from Bellary, 90 miles from Kárwár, and 97 miles from Kumpta (Coompta). Pop. (1872), 37,961; municipal income (1874-75), £2220; rate of taxation, 1s. 2½d. per head. Situated on the main lines of communication to Harihar, Kárwár, and Kumpta, Hubli has become the centre of the cotton trade of the Southern Marhattá country. Besides raw cotton and silk fabrics, a general trade in copper vessels, grain, salt, and other commodities is conducted on a large scale. Subordinate judge's court, post office, and charitable dispensary. Hubli was formerly the seat of an English factory, which in 1673, with the rest of the town, was plundered by Sivají, the Marhattá leader.

Hudikeri.—Village in Coorg State, headquarters of the Kiggatnad *táluk*. Lat. 12° 5′ N., long. 76° E.; 39 miles south-south-east of Merkára. Pop. (1871), 747; number of houses, 61. The village is healthily situated on the top of a beautiful grass-covered hill, whence a fine view is obtained of the Brahmagiri and Marenád ranges.

Húglí River (*Hooghly*).—The most westerly and, for commercial purposes, the most important channel by which the GANGES enters the Bay of Bengal. It takes its distinctive name near the town of Sántipur, a little above the point where the waters of the Bhágirathi join those of the Mátábhángá, at a distance of about 120 miles from the sea. The united stream thus formed, and during the rest of its course known as the Húglí, represents three western deltaic distributaries of the Ganges,—viz. (1) the BHAGIRATHI, and (2) the JALANGI, both of which leave the main stream of the Ganges, or Padma, in Murshidábád District; and (3) part of the MATABHANGA, which branches off in Nadiyá District. The Bhágirathi and Jalangí unite at Nadiyá, above the point of their junction with the lower waters of the Mátábhángá. The Mátábhángá in its turn has taken the name of the CHURNI before that point of junction, and thrown out new distributaries of its own;

so that, strictly speaking, the Húgli is made up of the united streams of the Bhágirathi and Jalangí, together with such part of the lower waters of the Mátábhángá as the Churní brings down. These three western distributaries of the Ganges are known as 'The Nadiyá Rivers.' They are important not only as the headwaters of the Húglí, but also as great highways for internal traffic. Like other deltaic distributaries, they are subject to sudden changes in their channels, and to constant silting up. The supervising and keeping open of the Nadiyá rivers has therefore formed one of the great tasks of fluvial engineering in Bengal. A special staff, under the 'Superintendent of the Nadiyá Rivers,' is employed to watch and to control their movements, and weekly reports of their condition are published in the official Gazette. It is due in part to the careful attention thus paid to the headwaters of the Húglí that Calcutta has not shared the fate of almost every other deltaic capital in India, and been shut off from the sea by the silting up of the river upon which its prosperity depends.

The Húglí thus starts life under a stringent supervision, from which it is scarcely allowed to escape until it reaches the sea. There is a portion of its course, however, during which it is left to itself. This part consists of the section between the point where it takes its distinctive name near Sántipur, and that at which it comes within the jurisdiction of the Port Commissioners of Calcutta. Proceeding south from Sántipur, with a twist to the east, the Húglí river divides Murshidábád from Húglí District, until it touches the District of the Twenty-four Parganás in lat. 22° 57′ 30″ N., and long. 88° 27′ 15″ E., close to the village of Bágherkhál. It then proceeds almost due south to Calcutta, next twists to the south-west, and finally turns south, entering the Bay of Bengal in lat. 21° 41′ N., and long. 88° E. From Bágherkhál downwards, it marks the boundary between the District of the Twenty-four Parganás on the east, and Húglí and Midnapur on the west. The river thus forms not only the most important feature in the geography of the western delta, but also a great demarcating line in the administrative distribution of the country.

Roughly speaking, the Húglí may be divided into two sections—(1) a short one of about 40 miles, from the point near Sántipur where it takes its name, to Calcutta; and (2) a longer section of about 80 miles, from Calcutta to the sea. During the first section of its course, its channels are under no supervision. The result is, that they have silted up, and shifted to such an extent as to be no longer navigable for sea-going ships. Yet it was upon this upper section of 40 miles above Calcutta that all the famous ports of Bengal lay in old times. A few miles below its junction with the Churní (*i.e.* the lower waters of the Mátábhángá) lay SATGAON, the ancient Royal Port 'Ganges Regia' of Bengal. Sátgáon or Sapta-grám was the traditional mercantile

capital of Bengal from the Puránic age to the 16th century. It lay at the point of junction of the Húglí and the holy SARASWATI. But the river silted up, deserted its ancient course past the town, and has left the Royal Port of Bengal high and dry. The once deep Saraswati is now a muddy ditch, and Sátgáon is a petty village, with a ruined mosque. The Portuguese, during the first half of the 16th century, found that the harbour of Sátgáon was no longer practicable; and accordingly fixed their port at Gholghát in 1537, a few miles lower down on the same east bank of the river. Gholghát soon became the chief emporium, and took the name of the river, viz. HUGLI TOWN. The Dutch came later, and, in the 17th century, founded their factory and port at CHINSURAH, a mile below Húglí town, and now forming one municipality with it. Still later, in the middle of the 18th century, CHANDARNAGAR or Chundernagore, founded as a small French settlement in 1673, rose to mercantile importance under Dupleix. Chandarnagar lies 3 miles below Húglí, and 24, by the river, above Calcutta. Navigation above Chandarnagar had already become difficult in the last century, but the largest ships could lie off it; and in 1757, the town was bombarded from the river by the English fleet. The Danes fixed their factory and port at SERAMPUR, 8 miles still farther down from Chandarnagar, and only 16 by water above Calcutta. Before the end of the last century, the approaches to all these riverside emporiums had deteriorated, and they are now impracticable for sea-going ships.

The history of the Húglí from Calcutta downwards presents the converse of this narrative of ruin and decay. Not only has there been no deterioration, but the 80 miles of waterway between Calcutta and the sea have immensely improved under English supervision. Yet on this lower section lies one of the most difficult problems with which river engineering has ever had to cope with. The JAMES and MARY Sands thirty miles below Calcutta, used to be reckoned so perilous, that until well into the present century, East Indiamen lay at DIAMOND HARBOUR, just below their dangerous currents. A minute supervision of the channels, with steady dredging and a constant readjustment of the buoys, now renders the Húglí a safe waterway to Calcutta for ships of the largest modern tonnage drawing up to 26 feet. Much attention has been paid to the Port of Calcutta itself. Its channels are kept clear by steam dredges, and a line of jetties with steam cranes affords the latest modern facilities for the discharge of cargo. For the trade, shipping, and administration of the Port, see CALCUTTA. The Húglí is crossed at Calcutta by a floating bridge, with a moveable section which allows the smaller vessels (principally native craft) to pass upwards.

Until about 1864, river steamers used to ply *viâ* the Húglí from Calcutta to the North-Western Provinces. But the deterioration of the

channels rendered this traffic year by year more slow and more dangerous; and the competition of the East India Railway gave the final stroke. At one time, the river below Calcutta also threatened to silt up; and in 1853, a Commission was appointed to inquire into 'the state of the river Húglí, particularly whether it has deteriorated for the purposes of navigation, and what has been the nature and progress of such deterioration.' It was even believed, that at no distant date, ships of modern tonnage would be unable to approach Calcutta; and a project was entertained of founding a new port 28 miles to the south-west, on the Matlá river, to anticipate the silting up of the Húglí channels. The scientific evidence then taken dissipated the panic, but made clear the necessity of closer attention to the Húglí channels. Every resource of hydraulic engineering has since been called in, and the Húglí is now in a better condition for the passage of large ships than ever it was. The Matlá project was, however, revived as a subsidiary port, and a railway was constructed to connect it with Calcutta. Trade, however, has clung to the Húglí. The Matlá harbour, known as PORT CANNING, proved a complete failure, and the railway from Calcutta is a dead loss to the Government.

James and Mary Sands.—The most interesting feature of the Húglí river between Calcutta and the sea is the James and Mary Sands, already alluded to. These shallows are formed by the enormous backwaters caused by the entrance into the Húglí from its western or left bank of two great rivers, the Dámodar and Rúpnáráyan, which bring down the drainage of South-Western Bengal. These rivers discharge at sharp angles into the Húglí, at a distance of only a few miles apart, nearly opposite Falta, which lies 27 miles by water from Calcutta. Their waters check the flow of the Húglí, and lead to the deposit of vast quantities of silt, which the three rivers (viz. the Húglí, Dámodar, and Rúpnáráyan) all combine to pour down. Dangerous banks and shifting quicksands are accordingly formed, and the channels have to be watched and sounded and supervised with almost the minute accuracy which a watchmaker would give to the repair of a delicate timepiece. If a ship touches the bottom, she is immediately pushed over by the current; and cases are known in which only the yards of a great three-masted ship have remained above water within half an hour after the accident. The vessel itself is sucked under, and covered over with the sands if not promptly blown up. The sands extend upwards from Húglí Point, $33\frac{1}{4}$ miles from Calcutta, opposite the mouth of the Rúpnáráyan, to about Falta, 27 miles from Calcutta, opposite the mouth of the Dámodar. The utmost care is therefore taken with vessels while passing this dangerous section of the river, and indeed all the way from Diamond Harbour up to Falta (14 miles); and the state of the channels is signalled from the bank to each

ship as it passes up. The result of all this care and skill is, that ships no longer think of discharging either passengers or cargo at Diamond Harbour below the James and Mary Sands, but pass straight up to Calcutta. Diamond Harbour, formerly a busy port, is now a deserted village, with a customs office and an old English graveyard. Much of the credit of maintaining and improving the Húglí as a great waterway is due to the Calcutta pilots,—the most highly skilled and most highly paid Pilot Service in the world. This service has not only produced many distinguished men, but by its trustworthiness, calm intrepidity, and high sense of responsibility as a body, has contributed perhaps even more than hydraulic engineering to keep open the approach to Calcutta. Every incoming vessel is boarded from a pilot brig before entering the estuary, and remains in charge of the pilot until he makes over the ship to the harbourmaster at Garden Reach on the southern limit of the Port of Calcutta.

Estuary of the Húglí. — Shortly after the river leaves Diamond Harbour, 41 miles below Calcutta, it widens out; and at Kalpí (Culpee), on its left or eastern bank, 48 miles from Calcutta, the estuary may be said to commence. At Khijirí (Kedgeree), 68 miles from Calcutta, on the right or western bank, it becomes a vast sea, with the low-lying Midnapur coast on the west, and SAGAR (Saugor) ISLAND, just rising a few inches above the level of the sea, 15 miles distant on the eastern side. Ságar or Middleton Point is passed at 83¼ miles below Calcutta, and the Ságar anchoring buoy at 86. For practical purposes, the sea may be said to commence at about 80 miles from Calcutta, but the outer floating light lies 121¼ miles, and the outermost or south channel buoy 131¼ miles. The estuary of the Húglí is famous for its sandbanks; but they are subject to such great and rapid changes, that any attempt at a minute description of them would be more mischievous than useful. The best known of them are the Gaspar Sands and Ságar Sands. The same reason precludes any attempt at an exact description of the entrance channels. Horsburgh in his sailing directions gave detailed information on this point, but it is now nearly useless. The best and only guides are the frequent issues of the charts brought up to date, 'showing the approaches to the Sand-heads;' and for the James and Mary Sands 'from Luff Point upwards to Anchorage Creek' and Falta.

The tide runs rapidly in the Húglí, and produces a remarkable example of the fluvial phenomenon known as a 'bore.' This consists of the headwave of the advancing tide, hemmed in where the estuary narrows suddenly into the river, and often exceeds 7 feet in height. It is felt as high up as Calcutta, and frequently sinks small boats or dashes them to pieces on the bank. The tide itself runs as high up as Húglí town. The difference between the lowest point of low water in

the dry season to the highest point of high water in the rains, is reported at 20 feet 10 inches. The greatest mean rise of tide, about 16 feet, takes place in March, April, and May; with a declining range during the rainy season to a mean of 10 feet, and a minimum during freshets reported at 3 feet 6 inches.

The Húglí receives no tributaries except the DAMODAR and RUPNARAYAN, already mentioned. It is, however, connected on its left or eastern bank, by various tidal channels and creeks, with the network of distributaries by which the Ganges pours into the sea. Some of these eastern channels form the great waterways for boat and steamer traffic from Calcutta through the Twenty-four Parganás and Sundarbans to Eastern Bengal and Assam.

After the junction of the Húglí with the Dámodar and Rúpnáráyan from Midnapur District, at the James and Mary Sands, the river represents, not only the three great western distributaries of the Ganges, but also the whole drainage of South-Western Bengal between the Ganges and the Chutiá Nágpur watershed.

The Húglí itself has scarcely a place in ancient Sanskrit history. But the Saraswati, now a muddy channel entering it at Sátgáon, about 30 miles above Calcutta; and the Adi Gangá, a ruined river, now little more than a series of pools, which diverges south-east from it just below Calcutta, are both rivers of great sanctity. They are supposed to represent the original Ganges—Holy Mother Gangá, who takes her divine source in the Himálayas, and pours her waters into the Bay of Bengal at SAGAR (Saugor) ISLAND. The great annual festival held on this island, and the legend connected with it, will be found under SAGAR.

The scenery on the banks of the Húglí varies greatly. The sea approach is disappointing. For many miles nothing but sandbanks can be seen. These are succeeded by mean-looking mud formations covered with coarse grass, and raised only a few inches above high tide. By degrees cocoa-nut trees seem to stand out of the water on the horizon. As the river narrows above the James and Mary Sands, however, the country is not so low, and grows richer. Trees and rice-fields and villages become common, and at length a section is reached where the banks are high, and lined with hamlets buried under evergreen groves. The palm foliage and feathery bamboos assert themselves more and more strongly, and give a luxuriant tropical type to the landscape. When at length the limits of the Port are reached, a scene of unexpected magnificence, unrivalled in its kind, bursts upon the eye. The long tiers of shipping, with the stately painted mansions of Garden Reach on the margin in the foreground, the fort rising from the great plain (*maidán*) on the bank higher up, and the domes, steeples, and noble public buildings of Calcutta beyond, gradually unfold their beauties in a

long panorama. The traveller really feels that he is approaching a City of Palaces. The river by which he has reached the capital furnishes one of the greatest triumphs of engineering skill in the contest of man with nature.

Húglí (*Hooghly*).—A British District in the Lieutenant-Governorship of Bengal, lying between 22° 13′ 45″ and 23° 13′ 15″ N. lat., and between 87° 47′ and 88° 33′ E. long. Area, including the Magistracy of HOWRAH (Parliamentary Abstract, 1878), 1467 square miles; population in 1872, 1,488,556. Húglí District forms the south-eastern portion of the Bardwán Division. It is bounded on the north by the District of Bardwán; on the east by the Húglí river, separating it from the Districts of Nadiyá and the Twenty-four Parganás; on the south by the Rúpnáráyan, separating it from Midnapur; and on the west by the same river, separating it from Midnapur, and by Bardwán District. The administrative headquarters are at HUGLI TOWN; but the most important town is HOWRAH, situated on the west bank of the Húglí, opposite Calcutta. Although the area of the District is, as stated, 1467 square miles, it was taken approximately by planimeter at 1424 square miles; and this is the area on which the population percentages were calculated in 1872. These percentages are retained in this article, and the police and criminal statistics have also been calculated upon the same approximate areas.

Physical Aspects.—The District is flat, with a gradual rise to the north and north-west. The scenery along the high-lying bank of the Húglí, which forms the eastern boundary of the District, has a quiet beauty of its own. Indeed, the whole banks of this river, from Guptipárá in the extreme north of the District to Ulubáriá in the south, present the appearance of a connected series of orchards and gardens, interspersed with villages, temples, and factories. The principal rivers are the HUGLI, the DAMODAR, and the RUPNARAYAN. The Húglí nowhere actually crosses the boundary, and the Rúpnáráyan only flows through a few miles of Mandalghát *parganá*. The Dámodar is the only large river which intersects the District. It enters Húglí from Bardwán on the north, and flows first in a southerly and then in a south-easterly direction, until it joins the Húglí opposite Falta. It is navigable during the dry weather for a distance of 25 miles from its mouth. The Dámodar appears formerly to have debouched into the Húglí at a point considerably to the north of that at which it now enters the river; its old mouth is at present the small water-course known as the Kansoná *khál*. At that time, too, the river entered the Húglí at a more oblique angle. Since it has changed its course, it empties its waters into the Húglí almost at a right angle, and the silt which it carries with it is thus thrown into the Húglí, meeting the silt suspended in the latter river. The result is a partial obstruction to

the force of the current; and the heavy silt falling to the bottom has gradually formed the 'JAMES AND MARY' Sandbank, which so seriously interferes with the navigation of the Húglí. As in other alluvial Districts, the highest land lies nearest the rivers, and the lowest levels are found midway between two streams. This fact explains the existence of the extensive marshes between the Húglí and the Dámodar, and between the latter river and the Rúpnáráyan. The principal of these marshes are the Rájápur, Dánkuní, and Sámtí *jhíls*, the last of which covers an area of 30 square miles. The Ulubáriá and Midnapur High-level Canal passes through this District; an account of the canal will be found in the article on MIDNAPUR. There are 5 other canals in the District used for water-carriage; the total length of these is 33 miles.

History.—From a historical point of view, the District of Húglí possesses as much interest as any in Bengal, or, indeed, in India. The memories of many nations cluster round its principal towns, and every village on the river bank, which forms the eastern boundary of the District, is associated with some historical event. In the early period of the Muhammadan rule, Sátgáon, now a petty village, was the seat of the Governors of Lower Bengal and a mint town, and gave its name to one of the SARKARS in Todar Mall's rent-roll. *Sarkár* Sátgáon included not only the District of Húglí (with Howrah), but also that of the Twenty-four Parganás, with Calcutta, and a portion of Bardwán. The town was the traditional mercantile capital of Bengal from the Puránic age to the time of the foundation of Húglí by the Portuguese in the middle of the 16th century. About this time the channel of the Saraswatí river, in which Sátgáon was situated, began to silt up, and the principal stream of the Ganges gradually deserted this bed for the Húglí, which was at that time a comparatively small river. In consequence of this silting up of the Saraswatí, Sátgáon became inaccessible to large vessels, and the Portuguese moved to Húglí. In 1632, the latter place, having been taken from the Portuguese by the Muhammadans, was made the royal port of Bengal; and all the public offices and records were withdrawn from Sátgáon, which rapidly fell into decay. A few years later, in 1640, the East India Company under a *firmán* from Sultán Shujá, then Governor of Bengal, established a factory at Húglí. This was the first English settlement in Lower Bengal; although the Orissa establishment at Pipplí had already been formed (1624-36). In 1669, the East India Company obtained, as a concession, the privilege of bringing their ships up to the town of Húglí for the purpose of loading. Up to that time they had been compelled to transport their merchandise to the seaboard in small sloops, and there re-ship them into large vessels. It was at Húglí, too, that the English first came into collision with

the Muhammadan Government in Bengal. In 1685, a dispute took place between the English factors at Húglí and the Nawáb of Bengal, and a military force was despatched from England and Madras to strengthen and protect the Company's factories at Húglí. The quarrel was on the point of adjustment, and it is said that the Nawáb was about to sign a treaty of peace, when an accident frustrated his intentions. A few English soldiers walking in the *bázár* at Húglí were suddenly attacked by some men belonging to the Nawáb's force; the comrades of the former came to their rescue, and a street fight ensued; the English commander bombarded the town of Húglí, and his fire burned to the ground five hundred houses, including the warehouses of the Company, containing goods to the value of £300,000. This was not the first time that Húglí had been the scene of a struggle deciding the fate of a European power in India. It has been stated that previous to the establishment of Húglí as the royal port of Bengal by the Muhammadans, they had captured the place from the Portuguese. On that occasion (1629), it was besieged for three months and a half by a large force sent by the Emperor Sháh Jahán, who had resolved to expel the foreigners from his dominions. The place was carried by storm; more than 1000 Portuguese were killed, upwards of 4000 men, women, and children were taken prisoners, and of 300 vessels of all sizes only 3 escaped. But Húglí District possesses historical interest for other European nations than England and Portugal. The Dutch established themselves at CHINSURAH in the 17th century, and held the place till 1825, when it was ceded to Great Britain in part exchange for the island of Java. The Danes settled at SERAMPUR, where they remained until 1845, when, by a treaty with the King of Denmark, all the Danish possessions in India, consisting of the towns of Tranquebar and Serampur (or Frederiksnagar, as it was then called), and a small piece of ground at Balasor formerly occupied as a factory, were transferred to the East India Company in consideration of the sum of 12½ *lákhs* of rupees (£125,000). CHANDARNAGAR became a French Settlement in 1673, and in the time of Dupleix was a place of some importance. In 1757, the town was bombarded by the English fleet under Admiral Watson, and captured, the fortifications and houses being afterwards demolished. On peace being established, it was restored to the French in 1763. When hostilities broke out in 1794, it was again taken by the English, and held by them till 1816, when it was a second time given up to the French, in whose possession it has ever since remained. The revenue jurisdiction of the District of Húglí with Howrah was established in 1819. Prior to that time, it had formed a part of the Bardwán Collectorate, although it had been created a District Magistracy some years earlier. Up to 1829, a single officer exercised the powers of Judge and

Magistrate throughout the entire District. Many changes have taken place in the area of Húglí from time to time, owing to transfers to and from neighbouring Districts.

Population, etc.—The first regular Census of the District was taken in 1872. The enumeration disclosed a population of 1,488,556 persons, inhabiting 322,703 houses and 3190 villages; average density, 1045 per square mile; number of villages per square mile, 2·24; houses per square mile, 227; number of persons per village, 467; persons per house, 4·6. Classified according to sex, there were 722,856 males, and 765,700 females; proportion of males, 48·6 per cent. of the District population. Classified according to age, there are, under 12 years old—244,697 males and 189,985 females; total children, 434,682, or 29·2 per cent. The excessive proportion of male above female children is due to the fact that here, as elsewhere throughout India, the natives consider that girls attain womanhood at an earlier age than boys reach manhood, and many girls are thus returned as women. The ethnical division of the population is as follows:—Non-Asiatics, 813, of whom the great majority are Europeans; mixed races (Eurasians), 557; Asiatics, 1,487,186. There are few aboriginal tribes in Húglí; the total number of aborigines being returned at 968, of whom 626 are Dhángars. Of semi-Hinduized aborigines, there are 260,278, the most numerous caste being the Bágdís, of whom there are 152,618. Among the high castes of Hindus, Bráhmans number 107,534, and Rájputs, 6993. Belonging to trading and artisan castes, there are 107,033; while the agricultural and pastoral castes number 443,561, of whom more than half (288,621) are Kaibarttas, the most numerous caste in the District. Grouped together on the basis of religion, the Hindus number 1,186,435, or nearly 80 per cent. of the population; the Muhammadans 299,025, or 20 per cent.; and the Christians 2583, of whom 1184 are native converts. Seven municipalities contain a population (1872) of upwards of 5000 souls each—viz. HOWRAH (pop. 97,784); HUGLI and CHINSURAH, given as one town in the Census Report (34,761); SERAMPUR (24,440); BAIDYABATI (13,332); BANSBARIA (7861); BHADRESWAR (7417); and KOTRANG (6811). These 7 municipalities have an aggregate population of 192,406 (or nearly 13 per cent. of the District population), leaving a balance of 1,296,150 as forming the rural population. Howrah is the largest and most important town in the District, and headquarters of the Magisterial District of the same name. It is also the Bengal terminus of the East Indian Railway; and being connected by a pontoon bridge with Calcutta, it may be regarded as one of the suburbs of the capital. Húglí and Chinsurah towns are, as has been stated, bracketed, and lie, in fact, so close to each other as to form in reality only one town. Serampur, 13 miles from Calcutta by rail, is interesting both historically (*vide supra*) and as having

been the scene of the labours of the Baptist missionaries Carey, Marshman, and Ward. Amongst other places of interest are—CHANDARNAGAR, a town on the Húglí, already mentioned in the historical section above, and one of the few remaining possessions of the French in India; BANDEL, a village on the river bank, about a mile above Húglí, containing a Roman Catholic monastery, said to be the oldest Christian Church in Bengal; SATGAON, now a miserable village, but once, as has been above stated, the mercantile capital of Bengal; TRIBENI, situated at the fabled junction of the Ganges or Húglí, the Saraswatí, and the Jamuná,—a place of great sanctity, and the scene of many religious gatherings; PANDUAH, now a small village with a railway station, but in ancient times the fortified seat of a Hindu Rájá; TARAKESWAR, a village containing a large and richly-endowed shrine of great sanctity, visited at all times of the year by crowds of pilgrims.

Agriculture, etc.—Rice forms the staple crop of the District. There are three harvests—viz. *boro* or spring rice; *áus* or *niálí*, the autumn crop; and *áman* or *haimantik*, the winter rice, which is the principal crop of the year. A considerable quantity of the finer kinds of table rice is cultivated in Húglí, chiefly for the Calcutta market. Subordinate cereals grown in the District are barley, wheat, and Indian corn; and among the other crops may be mentioned peas and many varieties of pulse, mustard and other oil-seeds, vegetables, jute, hemp, cotton, sugar-cane, indigo, mulberry, tobacco, and *pán*. Indigo is cultivated in the southern parts of the District, but to a much smaller extent than in former years, many factories having been lately abandoned. Of the total cultivated area of the District, it is roughly estimated that about thirteen-sixteenths are occupied by rice, and the different varieties of vegetables and pulse grown as second crops in winter after the rice has been harvested; the remaining three-sixteenths are under other crops. For land paying 9s. an acre of rent, a fair average out-turn is from 7 to 9 cwts. of unhusked rice per acre; and for superior land, renting at £1, 1s. per acre, from 26 to 33 cwts. per acre. Including the value of the straw and of second crops, the average value of a year's produce from an acre of land renting at 9s. may be set down at from £1, 10s. to £2; and from an acre of land renting at 18s., at about £3, 8s. Rates of rent are high in Húglí District, and have considerably increased of late years. First-class paddy land, which formerly rented for 15s. an acre, now pays from £1, 1s. to as much as £1, 16s.; and the rent of inferior paddy land has risen from 7s. 6d. and 9s. to 10s. 6d. and 13s. 6d. an acre. Mulberry and tobacco lands are rented at £1, 4s. to £3 an acre, and sugar-cane lands at from £1, 4s. to £2, 8s. Irrigation of rice and other ordinary crops is resorted to only in case of deficient rainfall; but potato, sugar-cane, and *pán* require plentiful irrigation and manure to ensure a fair return. Wages and prices of food grains have risen

greatly of late years. Coolies, who in 1861 received 2¼d. a day, now receive 6d.; carpenters and bricklayers now receive 1s. who were then paid 9d. In 1860, the best quality of unhusked rice sold at 3s. 4d. a cwt.; it now sells at 4s. 1d. a cwt. The price of the best cleaned and husked rice has risen from 6s. 9d. a cwt. in 1860 to 8s. 2d. There is very little spare land in the District. Rotation of crops is practised to a very limited extent; and when lands are allowed to lie fallow, it is only for a few months.

Natural Calamities.—Blights occasionally visit Húglí and Howrah, but, with one exception, they have not affected any crop throughout the entire District. The exceptional case was that of the 'Bombay sugar-cane,' which was totally destroyed by blight in 1860, since which time the cultivation of this valuable crop has been almost entirely abandoned. Floods, which were formerly common in the District, are now of very rare occurrence; protective embankments have been raised by Government along the banks of some of the larger rivers, and no other measures are required. Droughts, caused by deficiency of rainfall, sometimes occur, but not to any serious extent. The drought of 1865, which preceded the great famine of the following year, was not much felt in this District; and the effects of the famine itself were much less severe in Húglí than in some of the neighbouring Districts. It was not until late in July that the Collector asked for a Government grant; and in August relief-centres were opened. In Húglí and Howrah, the average daily number of persons in receipt of relief was—in July, 645; in August, 3242; in September, 6741; in October, 7041; in November, 5941; and in December, 1041. The total sum spent on relief amounted to £5956, of which £750 was granted by the Board of Revenue, £3390 by the Calcutta Central Relief Committee; while £1816 were raised by private subscription. The means of transit in the District are amply sufficient to prevent the extremity of famine, by importation from other parts. The highest price of rice during the famine of 1866 was 14s. 9¾d. per cwt. in November at Chandarnagar.

Commerce and Trade, etc.—The trade of the District is chiefly carried on by means of permanent markets. The principal exports are—fine rice, silk, indigo, jute, cotton cloth, and vegetables; the chief imports—common rice, English piece-goods, lime from Bardwán and Sylhet, timber, etc. The District is said to export more than it requires to import. The principal river marts, besides Howrah, are Bhadreswar, Chandarnagar, and Baidyabátí, at all of which large quantities of agricultural produce are stored for shipment to Calcutta. The chief manufactures of Húglí are silk and cotton. In the days of the East India Company, silk and cotton fabrics to the annual value of about £100,000 were produced here, but the manufacture has gradually decayed, owing to

the withdrawal of the Company's weaving factories and the importation of English piece-goods. The silk and cotton fabrics of the District are of a superior description, and command high prices. Among the other manufactures of Húglí are paper, rope, oil, baskets, and pottery. There were, in 1870, 400 miles of road in the District, maintained at an annual cost for repairs of about £4000. The East Indian Railway has its principal terminus at Howrah, and runs through Húglí District for a distance of about 45 miles; there are 10 stations in the District. Two newspapers are published in Húglí—viz. the *Friend of India*, a weekly English newspaper, published at Serampur; and the *Education Gazette*, also weekly, printed in Bengáli. At several towns in the District there are small public libraries. In Howrah there is a Mechanics' Institute, supported principally by the European *employés* of the East Indian Railway Company.

Administration.—Owing to original deficiencies in the records, to the different systems of account which have been employed, and to the alterations in area which have taken place, a comparison of the revenue and expenditure of the District, as returned at different periods, would be worse than useless; but it may be simply stated that the balance-sheet of the District for 1850-51 gives the revenue in that year as £141,522, and the expenditure, £48,258. In 1870-71, the figures were—revenue, £239,452, and expenditure, £84,989. The land tax forms the principal source of revenue, amounting in 1870-71 to £145,462, or more than 50 per cent. of the total. In 1873, after the area of the District had been considerably reduced by transfers to Bardwán and Midnapur, the land revenue amounted to £128,062; in 1850, it had been £116,496. Subdivision of estates has increased considerably of late years. In 1850, the number of estates was 2784, held by 5775 proprietors, the average payment by each estate being £41, 16s. 11d.; in 1873, the number of estates was 3537, and the average payment from each £36, 4s. 1d. In 1860, there were in the District 10 magisterial and 22 civil and revenue courts, with 7 covenanted English officers; in 1870, the number of officers was 8, and there were 16 magisterial and 35 civil and revenue courts. For police purposes, the District is divided into 18 *thánás* or police circles. The regular police force of Húglí and Howrah consisted at the end of 1871 of 1140 men of all ranks, maintained at a total cost of £20,726. In addition to these, there was in that year a municipal force (exclusive of Howrah town, the municipal police of which are included in the regular police) of 583 men, costing £4475; and a rural police of 7068 men, costing in money or lands an estimated sum of £17,856. The total machinery, therefore, for the protection of person and property consisted in 1871 of 8791 officers and men, or an average of 1 man to every 0·16 of a square mile, or to every 169 of the population. The estimated

total cost of maintaining this force was £43,057, giving an average of £30 per square mile, or 7d. per head of the population. The total number of criminal cases conducted by the police in that year was 10,054; percentage of final convictions to persons brought to trial, 56·9. *Dakáití*, which was formerly of frequent occurrence, is now not nearly so common; the average annual number of cases for the five years previous to 1870 was more than 40; in 1870, the number was 20; and in 1871, 10. The French Settlement of Chandarnagar used to afford special facilities for smuggling opium and spirits, but this illicit business has of late been entirely stopped by the police. It is said that a little salt smuggling is carried on in Howrah. In 1872, there were three jails in the District; the daily average number of prisoners was 425. Education has spread rapidly of late, the number of Government-aided and inspected schools having increased from 66 in 1856-57 to 193 in 1871-72, and the number of pupils in the same period from 7022 to 11,809. The number of such schools in 1877-78 was 625, attended by 22,666 pupils. The principal educational institution in the District is the Húglí College, which was, in 1871-72, attended by 3142 students, and on which a total expenditure of £5413 was incurred, derived from landed property, fees, and endowment funds vested in Government stock. The history of the college, and of the discussion regarding the propriety of founding and maintaining an institution devoted almost entirely to the higher English education out of a Muhammadan bequest, will be found in the *Statistical Account of Bengal*, iii. pp. 392-395. For administrative purposes, the District is divided into the following 4 Subdivisions:—(1) The Sadr or headquarters Subdivision; (2) Serampur; (3) Howrah; and (4) Maheshrakha Subdivision. These again are subdivided into 45 *parganás*. The 7 municipalities already named contain an aggregate population of 192,406, and the total municipal income derived from them in 1872 was £28,908; average rate of municipal taxation, 3s. per head of population.

Medical Aspects.—The climate of Húglí does not differ from that of Lower Bengal generally. The average maximum temperature may be put down at 92° F., and the average minimum at 68° F.; average annual rainfall, about 70 inches. The diseases of the District are those common to this part of the country—fevers, cholera, dysentery, etc. The epidemic malarious fever, which has raged at intervals during the last quarter of a century throughout the Bardwán and Presidency Divisions of Bengal, will be found referred to in the article on BARDWAN DISTRICT. It made its first appearance in Húglí District in 1861, and since then it has been gradually extending its ravages from village to village; and there is now hardly a spot in the District which has not been visited by it. There are no accurate statistics to

show the extent of the mortality, but the disease is said to have carried off more than half of the population, and to have almost depopulated certain villages. There are 7 hospitals and dispensaries in Húglí District.

Húglí.—Headquarters Subdivision of the District of same name, Bengal, lying between 22° 52′ and 23° 13′ 45″ N. lat., and between 88° 0′ 15″ and 88° 33′ E. long. Area, 436 square miles, with 936 villages or towns and 98,689 houses. Pop. (1872), 363,635—Hindus, 267,805, or 73·7 per cent.; Musalmáns, 95,378, or 26·2 per cent.; Christians, 388, or 0·1 per cent.; and 'others,' 64. Number of males, 173,492—females, 190,143; proportion of males in total population, 47·7 per cent.; average density of population, 834 per square mile; villages per square mile, 2·20; persons per village, 378; houses per square mile, 226; persons per house, 3·7. This Subdivision comprises the 5 police circles (*thánás*) of Serampur, Baidyabátí, Haripál, Krishnanagar, and Chanditalá.

Húglí Town.—The administrative headquarters of Húglí District, Bengal; situated on the right or east bank of the Húglí. Lat. 22° 54′ 44″ N., and long. 88° 26′ 28″ E. Húglí and Chinsurah immediately to the south form a single municipality, and the two towns were treated as one in the enumeration of 1872. Pop. of Húglí-cum-Chinsurah, 34,761, viz. 17,114 males and 17,647 females—Hindus, 27,429; Muhammadans, 6952; Christians, 328; 'others,' 52. Gross municipal revenue, 1876-77, £3486; average incidence of taxation, 1s. 10¼d. per head. Railway station on the East Indian Railway, 25 miles from Calcutta. The principal building is a handsome Imámbárá, constructed out of funds which had accumulated from an endowment originally left for the purpose by a wealthy Shiá gentleman, Muhammad Mohsin. Húglí is said to have been founded by the Portuguese in 1537, on the decay of SATGAON, the royal port of Bengal, a decay caused by the silting up of the Saraswatí river, on which it was situated. Upon establishing themselves, they built a fort at a place called Gholghát (close to the present Húglí jail), vestiges of which are still visible in the bed of the river. This fort gradually grew into the town and port of Húglí; but the Portuguese made themselves very unpopular with the Mughal Governor of Bengal. About 1621, Prince Kharram, afterwards the Emperor Sháh Jahán, revolted against his father, the Emperor Jahángír. He was defeated, and fled to Bengal, where he solicited the assistance of the Portuguese at Húglí, and asked to be furnished with troops and artillery. The Portuguese governor refused, and taunted the prince with being a rebel. Sháh Jahán never forgave the refusal and the insult. Eight years afterwards, shortly after his accession to the throne of Delhi, a representation was made to him by the Governor of Bengal that some European idolaters who had been allowed to establish

factories at Húglí had mounted their fort with cannon, and had grown insolent and oppressive. The Emperor, glad of this pretext, gave orders that they should be immediately expelled from his dominions. A large force was accordingly marched against the Portuguese at Húglí, and, after a siege of three and a half months, the fort was carried by storm, over 1000 Portuguese being slain, and upwards of 4000 men, women, and children were taken to the Emperor at Agra as prisoners of war. After the capture of Húglí by the Muhammadans, the seat of the royal port of Bengal was removed thither from Sátgáon, together with all the records and offices. The English factory at Húglí dates from 1640, being established under a *firmán* granted to Dr. Boughton, a surgeon in the East India Company's service, who had cured a favourite daughter of the Emperor's of a dangerous illness. It was at Húglí, also, that the English first came into collision with the Muhammadan Government in Bengal. In 1685, a dispute took place between the English factors at Húglí and the Nawáb of Bengal, arising out of the oppressions and exactions which the former suffered at the hands of the Muhammadan officials. Ultimately, in 1688, war was declared between the English and Mughals, and a force was despatched by the home and Madras authorities to strengthen and protect the Company's factory at Húglí. This expedition alarmed the Emperor, who hastened to end the quarrel and make peace by promising to redress the grievances complained of by the English. The Nawáb is said to have been on the point of signing a treaty of peace, when an accident frustrated his intentions. A few English soldiers, walking in the *bázár* of Húglí, were suddenly attacked by some men belonging to the Nawáb's force. The comrades of the former came to their rescue, and a street fight ensued. The town of Húglí was bombarded by the English commander, and 500 houses burned to the ground, including the warehouses of the Company itself. The English factors embarked on the expeditionary ships, and Húglí was for a time abandoned by the Company's servants. They were, however, invited to return by the Emperor, and the peace was signed under which the Company obtained permission to build a fortified factory at Sutanatí, the present site of Calcutta—a peace which lasted for upwards of seventy years.

Hugri (or *Vadavatti*).—River of Southern India, rises in Mysore and flows 125 miles into the Tumbhadra at Hatsahalli in Bellary District, Madras. Lat. 15° 43′ 20″ N., long. 76° 57′ 50″ E. The Hugri is a shallow and broad stream, rarely navigable.

Hujra.—Town in Montgomery District, Punjab, and headquarters of a police circle (*thána*). Pop. (1868), 2989; situated in lat. 30° 44′ 30″ N., long. 73° 52′ E., on the Khánwa Canal, about 18 miles from the railway station of Wán Rádha Rám. Old fort, containing the police station, village school, and post office. Residence of an

important *jágírdár* family of Síkhs, a branch of the Bedis, descendants of Guru Bába Nának. Originally held by a Sayyid proprietor; conquered by Bedi Sáhib Sinh during the reign of Ranjít Sinh, and held by him in *jágír* from the Mahárájá. His descendants still hold extensive revenue grants in the neighbourhood, and exercise considerable local influence.

Hukeri.—Town in Belgáum District, Bombay; 30 miles north-north-east of Belgáum. Lat. 16° 13′ N., long. 74° 38′ 20″ E.; pop. (1872), 5364. Connected with Chikori and the large town of Gokák by metalled roads. Hukeri has a post office, and some interesting Musalmán remains.

Huliyár (*'Tiger Town'*).—Municipal village in Chitaldrúg (Chitaldroog) District, Mysore; 46 miles south by east of Chitaldrúg. Lat. 13° 35′ N., long. 76° 34′ 51″ E.; pop. (1871), 1708; municipal revenue (1874-75), £15; rate of taxation, 2d. per head. Ancient inscriptions and other remains have been found. Headquarters of the Budihál *táluk*.

Huliyur-durga.—Municipal village in Túmkúr District, Mysore; 40 miles south of Túmkúr. Lat. 12° 49′ 20″ N., long. 77° 4′ 30″ E.; pop. (1871), 2158, chiefly Lingáyats and Muhammadans; municipal revenue (1874-75), £16; rate of taxation, 1¾d. per head. Fortifications on the hill above, 3096 feet above sea level, were erected by a local chieftain. Until 1873, the headquarters of a *táluk* of the same name, now included in Kunigal *táluk*.

Humcha (*'Golden Bit;'* or *Pomburchcha*).—Village in Shimoga District, Mysore. Lat. 13° 51′ N., long. 75° 16′ E.; pop. (1871), 776, almost exclusively Jains. Traditionally said to have been the capital of a Jain principality of the Solar line, founded by Jina-datta, who came from Mathura in Upper India. Existing ruins indicate the site of a large town; the oldest inscriptions found date from the 10th century. It is probable that the town was founded under the Chalukya dynasty, two centuries earlier. The capital was subsequently removed to Karkala in South Kanara. The succession of *gúrús* or Jain priests has been continued from a remote antiquity to the present day.

Hungund.—Chief town of Hungund Subdivision, Kaládgi District, Bombay; 105 miles east by north of Belgáum town, and 40 miles south-east of Kaládgi. Lat. 16° 3′ N., long. 76° 6′ 30″ E.; pop. (1872), 6296. One of the best markets in the District; post office.

Hún-myouk-bhet (*Hoon-myouk-bhet*).—Revenue circle in Kyoukhpyú District, Arakan Division, British Burma; situated in the southern portion of Ramrí Island. Area, 24 square miles. The chief crops are rice, sugar-cane, and indigo. Pop. (1876), 2668; gross revenue, £588.

Húnsúr.—Municipal town in Mysore District, Mysore; on right bank of the Lakshmantirtha, 28 miles west of Mysore. Lat. 12° 17′ 40″ N., long. 76° 19′ 5″ E.; pop. (1871), 4293, of whom 1156 are

Muhammadans; municipal revenue (1874-75), £249; rate of taxation, 1s. 2d. per head. The trunk road from Seringapatam here branches off to Merkára and Cannanore; and the brisk traffic supports an extensive manufactory of country carts, which has given rise to the local name of Gadipalya for the town. It is also the headquarters of the breeding establishment of the *amritá mahál*, a select breed of draught cattle said to have been formed by Haidar Alí for military purposes, and still kept up by Government. Until 1864, a tannery, a manufactory of *kamblis* or country blankets, and a timber yard were maintained here by the Madras Commissariat. The traditions of excellence in workmanship in these various trades are still continued by private enterprise. The breed of sheep, from the wool of which *kamblis* are made, has been improved by a cross with merinoes imported by the State. Boots, knapsacks, and pouches are now the chief articles of local industry. Large coffee works have recently been erected, where the berry, sent down from the Coorg (Kúrg) estates, is prepared for shipment. Húnsúr is the headquarters of the Periyapatná *táluk*.

Hurang (or *Jugang*).—Range of hills in the east of Cáchár District, Assam, north of the Barák river, across which runs the road from Silchár to Manipur.

Husáin Beli.—Ferry across the Indus at Gemro in the Rohri Deputy Collectorate, Shikárpur District, Sind. Lat. 27° 52′ N., long. 69° E. Also called the Azízpur and Amil Got ferry.

Hushiárpur. — District, *tahsíl*, and town in the Punjab. — *See* HOSHIARPUR.

Hutri-durga.—Hill in the south-east of Túmkúr District, Mysore; crowned with fortifications which were captured by Lord Cornwallis in 1792. Lat. 12° 57′ N., long. 77° 11′ E.

Hyderabad.—State and city in Southern India; District and town in Sind; *parganá* and town in Oudh.—*See* HAIDARABAD.

Hyderabad Assigned Districts or **Berar.**—Province in Southern India.—*See* HAIDARABAD ASSIGNED DISTRICTS.

Hydergarh.—Pass in South Kanara District, Madras.—*See* HASSAN-GADI.

Hylakandy.—Subdivision and village in Cachar District, Assam.—*See* HAILAKANDI.

I

Ibrahimábád.—Town in Bára Bánki District, Oudh; situated on the Gumti river. Lat. 26° 50′ N., long. 81° 15′ E. Pop. (1869), 3095, viz. 2678 Hindus, 417 Muhammadans. Bi-weekly market, at which a considerable trade in grain is carried on.

Ichak.—Municipal town in Hazáribágh District, Bengal; situated

in lat. 24° 5′ 24″ N., and long. 85° 28′ 13″ E., and between 7 and 8 miles north of Hazáribágh town. A picturesque place, containing the *garh* or family residence of the Rájás of Rámgarh. Pop. (1872), 8999; municipal revenue (1876-77), £305; average rate of taxation, 7¾d. per head of population.

Ichákádá.—Village in Jessor District, Bengal; 4 miles west of Mágurá. Formerly a small military station under the Nawáb's Government; now a roadside *bázár*, with considerable trade in molasses, potatoes, and pine apples.

Ichámatí.—River of Pabná District, Bengal; a branch of the Padma or Ganges, given off about 7 miles south-east of Pabná town at the village of Dogáchhí. After passing the civil station, it flows through the District by a tortuous route, and joins the Haráságar a short distance below the confluence of that river with the Baral. During the rains, the Ichámatí is a wide and beautiful stream, but for eight months in the year it is little more than a dry, sandy bed; the length of its course is 32 miles.

Ichámatí.—River of Bengal; a branch of the Mátábhángá (an offshoot of the Ganges), which it leaves at Krishnaganj. The Ichámatí flows south till it enters the District of the Twenty-four Parganás, where it takes the name of JAMUNA. It is a deep river, navigable throughout the year by the largest trading boats.

Ichápur (*'City of Desire'*).—Town in Ichápur Division, Ganjám District, Madras; situated in lat. 19° 6′ 40″ N., long. 84° 44′ 10″ E., on the Great North Road, 16 miles south-west of Berhampur. Houses, 2586, with (1871) 12,493 inhabitants. Seat of a sub-magistrate, with police and salt stations; post and telegraph offices and travellers' bungalow. It was formerly the headquarters of the District of the same name in the Chicacole Sarkár, and was the seat of the Musalmán Náíb; but in 1768, this Province was attached to Ganjám. Six miles to the south-west are the Bodágiri Hills.

Ichápur. — Town in the District of the Twenty-four Parganás, Bengal. Lat. 22° 36′ N., long. 78° 23′ E. Site of a large Government powder manufactory; also station on the Eastern Bengal Railway, 16¾ miles from Calcutta. Contains an aided vernacular school.

Ichauli.—Town in Bára Bánki District, Oudh; situated 25 miles east-north-east of the headquarters station. Lat. 26° 58′ N., long. 81° 37′ E. The original Bhar holders were driven out by the forces of Mahmúd of Ghazní (995-1030 A.D.), whose lieutenants, having been granted the village in *jágír*, razed the Bhar fort to the ground, founded a new town, and colonized it from among their followers, but retained the original name. The descendants of the original *jagírdárs* still own the village, which contains a fine masonry tank constructed by Mahárájá Tikáit Rái, finance minister of Asif-ud-daulá, who was born

here. Population (1869), Hindus, 2509; Muhammadans, 2061; total, 4570.

Ichra.—A suburb of LAHORE city, Punjab. Pop. (1868), 5327.

Idha.—Village in Partábgarh (Pratápgarh) District, Oudh; situated 10 miles north of the Ganges, on the road from Behar to Partábgarh, 5 miles from the former and 26 from the latter town. Pop. (1869), 2134. Market, the annual sales of which are estimated at £1000.

Iem-mai.—Revenue circle in Bassein District, Pegu Division, British Burma. Pop. (1876), 4222; gross revenue, £1398.

Ien-da-pú-ra.—Revenue circle in Rangoon District, Pegu Division, British Burma. Area, 73 square miles. The country consists chiefly of undulating ground. Pop. (1876), 5741; gross revenue, £2177.

Igatpuri.—Municipal town and headquarters of Igatpuri Subdivision, Násik District, Bombay. Lat. 19° 40′ N., and long. 73° 35′ E.; pop. (1872), 4985. Municipal revenue (1874-75), £93; rate of taxation, 4d. per head of population within municipal limits. Igatpuri is situated on the Great Indian Peninsula Railway, 85 miles from Bombay, and has a post office.

Iggadappa-kundu.—Mountain in the territory of Coorg, and one of the highest peaks in the main chain of the Western Gháts. The summit is crowned with fortifications.

Iglás.—Central western *tahsíl* of Alígarh District, North-Western Provinces, consisting chiefly of a cultivable plain. Area, 213 square miles, of which 188 are under cultivation; pop. (1872), 114,665; land revenue, £26,060; total Government revenue, £28,221; rental paid by cultivators, £42,774; incidence of Government revenue per acre, 3s. 9¾d.

Ikauna. — *Parganá* in Bahráich District, Oudh; bounded on the north by Bhinga *parganá*, on the east and south by Gonda District, and on the west by Bahráich and Bhinga *tahsíls*. Up to the time of Firoz Sháh Tughlak, this part of the country is said to have been under the sway of a tribe of the carpenter caste, who lived by robbery and marauding. In the reign of that monarch, about 1374 A.D., the Janwár Rájput, Bariár Sáh, after having effectually put down these robbers, received a grant of the tract on condition of keeping the country in order. This was the foundation of the great Ikauna *ráj*, which continued in the family of the original grantee until the Mutiny, when the estate was confiscated for the rebellion of its owner, part being conferred upon the Mahárájá of Kápurthála, and part upon the Rájá of Balrámpur, who belongs to a branch of the Ikauna family, which separated from the parent stem upwards of two centuries ago. Rájá Pratáp Sinh, belonging to another branch of the same stock, established the Gangwál *ráj* in this *parganá* about 1716, and his descendants still hold the estate. The rivers are the Rápti, Singhiá,

and Koháni, all running south-east—the two former through the north and the latter through the south of the *parganá*. The soil throughout is excellent, consisting mainly of good clay and sand mixed, and in the northern or low-lying portion of the *parganá*, of fine alluvial deposit. Area, 259 square miles, of which 139 are under cultivation, one-fourth being irrigated. Government land revenue, £13,007; average incidence, 2s. 11¾d. per acre of cultivated area, 1s. 9⅝d. per acre of assessed area, and 1s. 7⅛d. per acre of total area. Of the 213 villages which make up the *parganá*, no less than 206 are held under *tálukdárí* tenures, comprising the estates of the Rájás of Kápurthála, Balrámpur, and Gangwál. Pop. (1869), Hindus, 75,800; Muhammadans, 3621; total, 79,421, viz. 40,813 males and 38,608 females: average density of population, 307 per square mile. The Bráhmans, 13,986, are the most numerous caste; the Ahírs and Kurmís coming next, with 9740 and 7615 respectively. Two good roads intersect the *parganá*, both passing through Ikauna town. Four schools. The *parganá* contains many interesting Buddhist remains. The village of Tandwá is identified by General Cunningham with the Tu-wei of Fa Hian and Hiouen Thsang, where Kasyapa Buddha was born and lies buried; while a statue of the mother of Sakyá Buddha is now worshipped in the village as Sítá.

Ikauna.—Town in Ikauna *parganá*, Bahráich District, Oudh; situated 22 miles almost due east from Bahráich town, on the road from that place to Balrámpur. Lat. 27° 33′ 11″ N., long. 81° 59′ 38″ E. The town had always been the residence of the Ikauna Rájá, down to the time of the Mutiny, when the estate was confiscated in consequence of the disloyalty of its owner. Pop. (1869), Hindus, 1502; Muhammadans, 350; total, 1852, residing in 443 houses. Two Hindu temples; 3 mosques; police station. English school supported by the Rájá of Kápurthála.

Ikhtiyárpur.—Town in Rái Bareli District, Oudh; situated close to Rái Bareli town, in lat. 26° 13′ 50″ N., and long. 81° 16′ 25″ E. Founded by Nawáb Jahán Khán. Pop. (1869), 2653 Hindus and 2349 Muhammadans—total, 5002, residing in 518 houses. Principal buildings, a palace called the Rangmahál, mausoleum, masonry market-place, and travellers' rest-house. Noted for a coarse description of cloth known as *garhá*, and for a sweetmeat called *bará*, the latter being a speciality of the place.

Ikkeri ('*Two Streets*,' or *Akheri*).—Village in Shimoga District, Mysore State. Lat. 14° 7′ 20″ N., and long. 75° 3′ 45″ E.; pop. (1871), 127. From 1560 to 1640, the capital of the Keladi chiefs, a family of Lingáyat origin, who exercised a wide dominion over the surrounding country. The cradle of the dynasty was at Keladi, in Shimoga District; and they finally fixed their residence at BEDNUR or Nagar, which was

captured by Haidar Alí in 1763, and their territory annexed to Mysore. The dynasty, however, took its name from Ikkeri, and their currency was known as Ikkeri *pagodas* and *phanams*, even after the mint was removed. The walls of the town were of great extent, forming three concentric enclosures. In the middle stood the palace and citadel, built of mud and timber, and adorned with carving and gold. . All that now remains is the large stone temple of Aghoreswara, containing effigies of three chiefs, represented as doing obeisance.

Ilambázár.—Town in Bírbhúm District, Bengal; on the Ajai river, in lat. 23° 37′ 35″ N., long. 87° 34′ 50″ E. Seat of a considerable trade, and celebrated for its manufacture of lac ornaments, Ilambázár being the centre of this industry. The sticklac is obtained from the neighbouring western jungles. Messrs. Erskine & Co. have established large shellac and lac-dye works here; and there are besides some ten or twelve native factories.

Ilichpur.—District and town in Berar.—*See* ELLICHPUR.

Ilkal.—Town in the Húngúnd Subdivision of Kaládgi District, Bombay. Lat. 15° 57′ N., and long. 76° 9′ E.; 8 miles south-east of Húngúnd, and 46 south-east of Kaládgi. Pop. (1872), 10,107; municipal revenue (1874-75), £599; rate of taxation, 1s. 2d. per head of population within municipal limits. Post office and dispensary. Ilkal is the principal market of the District; the staple exports are silk and cotton manufactures, rice, and other agricultural produce. Cotton cloth, manufactured into *sárís* or women's dress, is exported to Sholápur, Poona, Belgáum, and the Nizám's Dominions. The military cantonment of Lingságar, the station for one of the Nizám's regiments, 24 miles from the Húngúnd frontier, is supplied with grain from this market.

Ilol.—Native State within the Political Agency of Mahi Kánta, in the Province of Guzerat, Bombay. Pop. (1872), 5511; gross revenue, inclusive of transit dues, £1564. No minerals have hitherto been discovered, but the hills yield quarries of sandstone. The vegetable products are cotton, wheat, and the ordinary varieties of grain and pulse. There is one school, with 41 pupils. The family of the chief are Hindus, Makwáná Kolís by caste. The succession follows the rule of primogeniture, but there is no *sanad* authorizing adoption. The present (1875) chief, Thákur Wakhat Sinh, a minor fourteen years of age, is being educated at the Rájkumár College at Rájkot, in Káthiáwár. This State pays a tribute of £186 to the Gáekwár of Baroda, £43 to the Chief of Edar, and £2 to the State of Ahmednagar, now incorporated with Edar.

Ilol.—Chief town of the State of the same name, in Guzerat, in political connection with the Bombay Presidency. Lat. 23° 59′ N., and long. 73° 18′ E.

Imámgarh.—A ruined fortress in the Khairpur State, Sind. Lat.

26° 32′ N., and long. 69° 16′ E. Thither, in 1843, Mír Rústam Khán Tálpur fled for refuge, trusting to its situation in the desert and its reputed strength; but Sir Charles Napier pursued him with a force mounted on camels, and the Mír at once surrendered the fort. In its bomb-proof magazine were found 20,000 lbs. of powder, which Sir Charles Napier exploded, reducing Imámgarh to a mass of ruins.

Inchalkaranji. — Native State feudatory to the Kolhápur Principality, within the Political Agency of Kolhápur and Southern Marhattá country, Bombay. Estimated area, 201 square miles; pop. (1872), 59,330; gross revenue, £21,223. Iron is found in small quantities. The vegetable products include rice and the ordinary varieties of millet, vegetables, sugar-cane, tobacco, cotton, chillies, and safflowers. There are 12 schools, with 573 pupils. There is a limited manufacture of coarse cotton and woollen cloth, and the ordinary pottery and hardware. The family of the chief, who ranks among the first-class chiefs of the Southern Marhattá country, are Hindus, and Bráhmans by caste. The present (1875) chief, Govindráo Keshava, now twenty-one years of age, was adopted in 1864, with the permission of the British Government. He administers his estate himself, and pays a yearly tribute of £200 to Kolhápur. He holds no *sanad* authorizing adoption, and his house follows the rule of primogeniture.

Inchalkaranji.—Chief town of the State of the same name, in the Southern Marhattá country, in political connection with the Bombay Presidency. Lat. 16° 41′ N., long. 74° 31′ E.; pop. (1872), 9244.

Indápur.—Chief town of the Subdivision of the same name, in Poona (Púna) District, Bombay. Lat. 18° 6′ N., and long. 75° 4′ E.; 84 miles south-east of Poona. Pop. (1872), 7740; municipal revenue (1874-75), £202; rate of taxation, 8d. per head of the population (6020) within municipal limits. There is a weekly market and a Musalmán fair held annually in November. The town has a post office and a dispensary, and is celebrated for the manufacture of coarse cotton cloth.

Indarpat.—Village in Delhi District, Punjab, occupying the site of the ancient Indraprástha, and in the immediate vicinity of the modern city of DELHI. Lat. 28° 36′ 30″ N., and long. 77° 17′ 30″ E. The original town stood upon the banks of the Jumna, between the Kotila of Firoz Sháh and the tomb of Humáyun; and although the river has now shifted its channel a mile eastward, the former bed may still be traced past the early site. Scarcely a stone of the ancient capital yet remains standing; but the village of Indarpat and the Muhammadan fort of Purána Kila probably occupy the true site, while the modern name is obviously a corruption of the old Hindu title. Indraprástha was probably founded in the 15th century B.C. by the earliest Aryan colonists of India; and the *Mahábhárata* relates how the five Pándavas, Yudisthira

and his brethren, leading a body of settlers from Hastinapur on the Ganges, expelled the savage Nágas, and built their capital upon this spot. For later details, see DELHI CITY.

Indaur.—State in Central India.—*See* INDORE.

Indi.—Chief town of Indi Subdivision, Kaládgi District, Bombay. Lat. 17° 11′ N., long. 76° E.; pop. (1872), 4675; municipal revenue (1874-75), £18; rate of taxation, ¾d. per head of municipal population.

India.[1]—India forms a great irregular triangle, stretching southwards from Asia into the sea. Its northern base rests upon the Himálayan ranges; the chief part of its western side is washed by the Arabian Sea, and the chief part of its eastern side by the Bay of Bengal. It extends from the eighth degree to the thirty-fifth degree of north latitude; that is to say, from the hottest regions of the equator to far within the temperate zone. The capital, Calcutta, lies in 88° E. long.; so that when the sun sets at six o'clock there, it is just past mid-day in England. The length of India from north to south, and its greatest breadth from east to west, are both about 1900 miles; but the triangle tapers with a pear-shaped curve to a point at Cape Comorin, its southern extremity. To this compact dominion the English have added, under the name of British Burma, the strip of country on the eastern shore of the Bay of Bengal. The whole territory thus described contains close on 1½ millions of square miles, and 240 millions of inhabitants. India, therefore, has an area and a population about equal to the area and population of the whole of Europe less Russia.[2] Its people exactly double Gibbon's estimate of 120 millions for all the races and nations which obeyed Imperial Rome.

General outline.

India is shut off from the rest of Asia on the north by a vast mountainous region, known in the aggregate as the Himálayas. Among their southern ranges lie the Independent States of Bhután and Nepál: the great tableland of Tibet stretches behind. The Native Principality of Kashmír occupies their north-western Indian angle. At this north-western angle (in lat. 35° N., long. 74° E.), an allied mountain system branches southwards. India is thus separated by the well-marked ranges of the Safed Koh, and the Suláimán from Afghánistán; and by a southern continuation of lower hills (the

Boundaries, on the north

on the west;

[1] For table of contents to this article, see beginning of this volume. Names of places in capitals are intended to refer the reader to their respective articles in the *Imperial Gazetteer of India.*

[2] Population figures refer to 1871-72, unless otherwise stated.

Hálas, etc.) from Baluchistán. The Treaty of Gandamak in 1879, now in abeyance, carried the British frontier to the Afghán side of the Safed Koh and Suláimán ranges, and thus gave us the command of the passes and crests of the mountain walls between India and Afghánistán. The last part of the western land frontier of India is formed by the river Hab, and the boundary ends with Cape Monze, at the mouth of its estuary, in lat. 24° 50′ N., long. 66° 38′ E. Still proceeding southwards, India is bounded along the west and south-west by the Arabian Sea and Indian Ocean. Turning northwards from its southern extremity at

on the east.

Cape Comorin (lat. 8° 4′ 20″ N., long. 77° 35′ 35″ E.), the long sea-line of the Bay of Bengal forms the main part of its eastern boundary. But in the north-east, as in the north-west, India has again a land frontier. The Himálayan ranges at their north-eastern angle (in about lat. 28° N., long. 97° E.) throw off spurs and chains to the southward. These spurs separate the British Provinces of Assam and Eastern Bengal from Independent Burma. They are known successively as the Abar, Nágá, Patkoi, and Barel ranges. Turning almost due south in lat.

Burmese boundary.

25°, they culminate in the Blue Mountain, 7100 feet, in lat. 22° 37′ N., long. 93° 10′ E.; and then stretch southwards under the name of the Arakan Yomas, separating British Burma from Independent Burma, until they again rise into the great mountain of Myeng-mateng (4700 feet), in 19½ degrees of north latitude. Up to this point, the eastern hill frontier follows, generally speaking, the watershed which divides the river systems of the Brahmaputra, Meghná, Kuladan (Koladyne), etc., in Bengal and British Burma, from the Irawadi basin in Independent Burma. But from near the base of the Myeng-mateng Mountain, in about lat. 19½°, the British frontier stretches almost due east in a geographical line, which divides the lower Districts and delta of the Irawadi in British Burma from the middle and upper Districts of that river in Independent Burma. Proceeding south-eastwards from the delta of the

Tenasserim boundary.

Irawadi, a confused succession of little explored ranges separates the British Province of Tenasserim from the Native Kingdom of Siam. The boundary line runs down to Point Victoria at the extremity of Tenasserim (lat. 9° 59′ N., long. 98° 32′ E.), following the direction of the watershed between the rivers of the British territory on the west and of Siam on the east.

Physical aspects.

The Empire included within these boundaries is rich in varieties of scenery and climate, from the highest mountains in the world, to vast river deltas raised only a few inches above the level of the sea. It forms a continent rather than a country.

But if we could look down on the whole from a balloon, we should find that India consists of three separate and well-defined tracts. The first includes the lofty Himálaya Mountains, which shut it out from the rest of Asia, and which, although for the most part beyond the British frontier, form an overruling factor in the physical geography of Northern India. The second region stretches southwards from the base of the Himálayas, and comprises the plains of the great rivers which issue from them. The third region slopes upward again from the edge of the river plains, and consists of a high three-sided tableland, supported by the Vindhyá Mountains on the north, and by the Eastern and Western Gháts which run down the coast on either side, till they meet at a point near Cape Comorin. The interior three-sided tableland, thus enclosed, is dotted with peaks and ranges, broken by river valleys, and interspersed by broad level uplands. It comprises the southern half of the peninsula.

The three Regions of India.

The first of the three regions is the Himálaya Mountains and their offshoots to the southward. The Himálayas—literally, the 'Dwelling-place of Snow,' from the Sanskrit *hima*, frost (Latin, *hiems*, winter), and *álaya*, a house—consist of a system of stupendous ranges, the loftiest in the world. They are the *Emodus* or *Imaus* of the Greek geographers, and extend in the shape of a scimitar, with its edge facing southwards, for a distance of 1500 miles along the northern frontier of India. At the north-eastern angle of that frontier, the Dihang river, the connecting link between the Tsan-pu (Sangpu) of Tibet and the Brahmaputra of Assam, bursts through the main axis of the Himálayas. At the opposite or north-western angle, the Indus in like manner pierces the Himálayas, and turns southwards on its course through the Punjab. The Himálayas, like the Kuen-luen chains, the Tián-shan, and the Hindu Kush, converge towards the Pamír tableland — that central knot whence all the great mountain systems of Asia radiate. With the Kuen-luen the Himálayas have a closer connection, as these two mighty ranges form the northern and southern buttresses of the lofty Tibetan plateau. The Himálayas have been divided into three principal chains.[1] But regarded merely as a natural frontier separating India from the Tibetan plateau, the Himálayas may be described as a double mountain wall running nearly east and west, with a trough or series of deep

First Region—The Himálayas.

The double Himálayan Wall and Trough beyond.

[1] The latest geographers hold that the Himálayan system stretches in a continuous chain westwards along the Oxus to 68° E. long., and that only an arbitrary line can be drawn between the Himálayan ranges and the elevated regions of Tibet to the north of them.

valleys beyond. The southernmost of the two walls rises steeply from the plains of India to 20,000 feet, or nearly 4 miles, in height. It culminates near its centre in KANCHANJANGA, 28,176 feet, and MOUNT EVEREST, 29,002 feet, the latter being the loftiest measured peak in the world. This outer or southern wall of the Himálayas subsides on the northward into a series of dips or uplands, 13,000 feet above the level of the sea, beyond which rises the second or inner range of Himálayan peaks. The double Himálayan wall thus formed, then descends into a great trough or line of valleys, in which the Sutlej, the Indus, and the mighty Tsan-pu (Sangpu) gather their waters. The Sutlej and the Indus flow westwards, and pierce by separate passes through the western Himálayas into the Punjab. The Tsan-pu (or Sangpu), after a long unexplored course eastwards along the valley of the same name in Tibet, finds its way through the Dihang gorge of the Eastern Himálayas into Assam, where it takes its final name of the Brahmaputra. On the north of the river trough, beyond the double Himálayan wall, rise the Karakoram and Gangri Mountains, which form the immediate escarpment of the Tibetan tableland. Behind the Gangris, on the north, the lake-studded plateau of Tibet spreads itself out at a height averaging 15,000 feet. Broadly speaking, the double Himálayan wall rests upon the low-lying plains of India, and descends into a river trough beyond which rises the Tibetan plateau. The higher ranges between Tibet and India are crowned with eternal snow; while vast glaciers, one of which is known to be 60 miles in length, slowly move their masses of ice downwards to the valleys.

Himálayan Passes.

This wild region is in many parts impenetrable to man, and nowhere yields a passage for a modern army. It should be mentioned, however, that the Chinese outposts extend as far as a point only 6000 feet above the Gangetic plain, north of Khatmandu. Indeed, Chinese armies have seriously threatened Khatmandu itself; and Sir David Ochterlony's advance from the plains of Bengal to that city in 1816 is a matter of history. Ancient and well-known trade routes exist, by means of which merchandise from the Punjab finds its way over heights of 18,000 feet into Eastern Túrkistán and Tibet. The Mustagh (Snowy Mount), the Karakoram (Black Mount), and the Chang-chenmo are the most famous of these passes.

Offshoots of the Himálayas;

The Himálayas not only form a double wall along the north of India, but at both their eastern and western extremities send out ranges to the southwards, which protect its north-eastern and north-western frontiers. On the north-east, those

offshoots, under the name of the Nágá and Patkoi Mountains, etc., form a barrier between the civilised British Districts and the wild tribes of Upper Burma. The southern continuations of these ranges, known as the Yomas, separate British from Independent Burma, and are crossed by passes, the most historic of which, the Aeng or An, rises to 4668 (formerly given at 4517) feet, with gradients of 472 feet to the mile. on east;

On the opposite or north-western frontier of India, the mountainous offshoots run down the entire length of the British boundaries from the Himálayas to the sea. As they proceed southwards, their best marked ranges are in turn known as the Sufed Koh, the Suláimán, and the Hála Mountains. These massive barriers have peaks of great height, culminating in the Takht-i-Suláimán, or Throne of Solomon, 11,317 feet above the level of the sea. But the mountain wall is pierced at the corner where it strikes southwards from the Himálayas by an opening through which the Indus river flows into India. An adjacent opening, the KHAIBAR PASS (rising to 3373 feet), with the Kuram Pass to the south of it, the Gwalarí Pass near Derá Ismáil Khán, the Tál Pass debouching near Derá Ghází Khán, and the famous Bolán Pass (5800 feet at top), still farther south, furnish the gateways between India and Afghánistán. The Hála, Brahui, and Pab Mountains form the southern hilly offshoots between India and Baluchistán, and have a much less elevation. on west. The Gate ways of India.

The Himálayas, while thus standing as a rampart around the northern frontier of India, collect and store up water for the tropical plains below. Throughout the summer vast quantities of water are exhaled from the Indian Ocean. This moisture gathers into vapour, and is borne northward by the monsoon or regular wind, which sets in from the south in the month of June. The monsoon carries the masses of cloud northwards across India, and thus forms the 'rainy season,' on which agriculture so critically depends. But large quantities of the moisture do not fall as rain in passing over the hot plains. This vast residue is eventually dashed against the Himálayas. Their lofty double walls stop its farther progress northwards, and it either descends in rain on their outer slopes, or is frozen into snow in its attempt to cross their inner heights. Very little gets beyond them; so that while their southern spurs receive the largest measured rainfall in the world, and pour it down to the Indian rivers, the great plateau of Tibet on the north of the double wall gets scarcely any rainfall. At Cherra-Púnjí (Poonjee), where the monsoon first Himálayan water supply. Himálayan rainfall.

strikes the hills in Assam, 368 inches of rain, according to former returns, fall annually. Later statements give the fall at 523 inches; and in one year (1861) as many as 805 inches were reported, of which 366 inches fell in the single month of July. While, therefore, the yearly rainfall in London is about 2 feet, and that of the plains of India from 1 to 6, the rainfall at Cherra-Púnjí is from 30 to over 40 feet, and in one year 67 feet of water fell from the sky, or sufficient to drown a three-storied house. The outer slopes of the Himálayas swell the Indian rivers by their torrents during the rainy season; their inner ranges and heights store up the rainfall in the shape of snow, and thus form a vast reservoir for the steady supply of the Indian rivers throughout the year.

Himálayan scenery.

This heavy rainfall renders the southern slopes of the Himálayas very fertile, wherever there is any depth of tilth. But, on the other hand, the torrents scour away the surface soil, and leave most of the mountain-sides bleak and bare. The upper ranges lie under eternal snow; the intermediate heights form arid grey masses; but on the gentler slopes, plateaux, and valleys, forests spring up, or give place to a rich though simple cultivation. The temperature falls about $3\frac{1}{3}°$ F. for each thousand feet of elevation; and the vegetation of the Himálayas is divided into three well-marked zones, the tropical, the temperate, and the arctic, as the traveller ascends from the Indian plains. A damp belt of lowland, the *tarái*, stretches along their foot, and is covered with dense, fever-breeding jungle, habitable only by rude tribes and wild beasts. Fertile *dúns* or valleys penetrate their outer margin.

Himálayan vegetation.

In their eastern ranges adjoining the Lieutenant-Governorship of Bengal, where the rainfall is heaviest, the tree-fern flourishes amid a magnificent vegetation. Their western ranges are barer. But the rhododendron grows into a forest tree, and large tracts of it are to be found throughout the whole length of the Himálayas. The *deodar*, or Himálayan cedar, rises in stately masses. Thickets of bamboos, with their graceful light-green foliage, beautify the lower valleys. Higher up, the deeper-hued ilex, the dark cedar, and patches of the white medlar blossom, form a brilliant contrast to the stretches of scarlet and pink rhododendron. In the autumn, crops of millet run in bright-red ribands down the hillsides. The branches of the trees are themselves clothed with a luxuriant growth of mosses, ferns, lovely orchids, and flowering creepers. The Himálayas have enriched English parks and hothouses by the *deodar*, the rhododendron, and the orchid; and a great extension in the

cultivation of the *deodar* and rhododendron throughout Britain dates from the Himálayan tour in 1848 of Sir Joseph Hooker, now Director of Kew Gardens.

Himálayan cultivation.

The hill tribes cultivate barley, oats, and a variety of millets and small grains. Vegetables are also raised on a large scale. The potato, introduced from England, is now a favourite crop, and covers many sites formerly under forest. Rice is only grown in exceptional spots, which have an unfailing command of water. The hillmen practise an ingenious system of irrigation, according to which the slopes are laid out in terraces, and the streams are diverted to a great distance by successive parallel channels along the mountain-side. They also utilize their water-power for mill purposes. Some of them are ignorant of cog-wheels for converting the vertical movement of the mill-wheel into the horizontal movement required for the grinding-stone. They therefore place their mill-wheel flat instead of upright, and lead the water so as to dash with great force on the horizontal paddles. A horizontal rotary movement is thus obtained, and conveyed direct by the axle to the millstone above.

Irrigation and mill-power.

Himálayan saleable produce.

The chief saleable products of the Himálayas are timber, charcoal, barley, millets, potatoes, other vegetables, honey, and jungle products. Strings of ponies and mules straggle with their burdens along the narrow pathways, which are at places mere ledges cut out of the precipice. The hillmen and their hard-working wives load themselves also with pine stems and conical baskets of grain. The high price of wood on the plains for railway sleepers and other purposes has caused many of the hills to be stripped of their forests, so that the rainfall now rushes quickly down their bare slopes, and no new wood can spring up. The yak-cow and hardy mountain sheep are the favourite beasts of burden in the inner ranges. The little yak-cow, whose bushy tail is manufactured in Europe into lace, patiently toils up the steepest gorges with a heavy burden on her back. The sheep, with their bags of borax, are driven into Simla, where they are shorn of their wool, and then return into the interior laden with salt.

Himálayan animals and tribes.

The characteristic animals of the Himálayas include the so-called bison (Bos gaurus), yak-cow, musk-deer, wild sheep and goat, bear, ounce, and fox; the eagle, pheasants of beautiful varieties, partridge, and other birds. Ethnologically, the Himálayas form the meeting-ground of the Aryan and Turanian races, which in some parts are curiously mingled, though generally easily distinguishable. The tribes or broken clans of non-

Aryan origin number over fifty; with languages, customs, and religious rites more or less distinct. The lifelong labours of Mr. Brian Houghton Hodgson, late of the Bengal Civil Service, have done much to illustrate the flora, fauna, and ethnology of the Himálayas, and no sketch of this region would be complete without a reference to Mr. Hodgson's work.

Second Region of India—The northern River Plains.

The wide plains watered by the Himálayan rivers form the second of the three regions into which I have divided India. They extend from the Bay of Bengal on the east, to the Afghán frontier and the Arabian Sea on the west, and contain the richest and most densely crowded Provinces of the Empire. One set of invaders after another have, from pre-historic times, entered by the passes on their eastern and north-western frontiers. They followed the courses of the rivers, and pushed the earlier comers southwards before them towards the sea. About 150 millions of people now live on and around these river plains in the Provinces known as the Lieutenant-Governorship of Bengal, Assam, the North-Western Provinces, Oudh, the Punjab, Sind, Rájputána and other Native States.

The three River-systems of N. India.

(1) The Indus, with the Sutlej.

(2) The Tsan-pu or Brahmaputra.

The vast level tract which thus covers Northern India is watered by three distinct river-systems. One of these river-systems takes its rise in the hollow trough beyond the Himálayas, and issues through their western ranges upon the Punjab as the Sutlej and Indus. The second of the three river-systems also takes its rise beyond the double wall of the Himálayas, not very far from the sources of the Indus and the Sutlej. It turns, however, almost due east instead of west, enters India at the eastern extremity of the Himálayas and becomes the Brahmaputra of Assam and Eastern Bengal. These rivers collect the drainage of the northern slopes of the Himálayas, and convey it, by long and tortuous, although opposite, routes, into India. Indeed, the special feature of the Himálayas is that they send down the rainfall from their northern as well as from their southern slopes to the Indian plains. Of the three great rivers of Northern India, the two longest, namely the Indus with its feeder the Sutlej, and the Brahmaputra, take their rise in the trough on the north of the great Himálayan wall. The third river system of Northern India receives the drainage of the southern Himálayan slopes, and eventually unites into the mighty stream of the Ganges. In this way the rainfall, alike from the northern and southern slopes of the Himálayas, pours down upon the river plains of India.

(3) The Ganges, with the Jumna.

The Indus.

The INDUS (Sanskrit, *sindhu;* 'Ινδός, Σινθός) rises in an

unexplored region (lat. 32° N., long. 81° E.) on the slopes of the sacred Kailás Mountain, the Elysium or Siva's Paradise of ancient Sanskrit literature. The Indus has an elevation of 16,000 feet at its source; a drainage basin of 372,700 square miles; and a total length of over 1800 miles. Shortly after it passes the Kashmír frontier, it drops to 14,000 feet, and at Leh is only about 11,000 feet above the level of the sea. The rapid stream dashes down ravines and wild mountain valleys, and is subject to tremendous floods. The Indus bursts through the western ranges of the Himálayas by a wonderful gorge near Iskardoh, in North-Western Kashmír; a gorge reported to be 14,000 feet in sheer depth.

Its great feeder, the SUTLEJ, rises on the southern slopes of the Kailás Mountain. It issues from one of the sacred lakes, the Mánasarowar and Rávana-hráda (the modern Rákhas Tál), famous in Hindu mythology, and still the resort of the Tibetan shepherds. Starting at an elevation of 15,200 feet, the Sutlej passes south-west across the plain of Gugé, where it has cut through a vast accumulation of deposits, by a gully said to be 4000 feet deep, between precipices of alluvial soil. After traversing this plain, the river pierces the Himálayas by a gorge with mountains rising to 20,000 feet on either side. The Sutlej is reported to fall from 10,000 feet above sea level at Shipki, a Chinese frontier outpost, to 3000 feet at Rámpur, and to about 1000 feet at Bilászpur. After entering British territory, it receives the waters of the Western Punjab, and the united stream falls into the Indus near Mithánkot, after a course of 900 miles. The Sutlej.

I give a full account of the Indus in the article on that river. About 800 miles of its course are passed among the Himálayas before it enters British territory, and it flows for about 1000 more, south-west, through the Provinces of the Punjab and Sind. In its upper part it is fordable in many places during the cold weather; but it is liable to sudden freshets, in one of which Ranjít Sinh is said to have lost a force, variously stated at from 1200 to 7000 horsemen, while crossing the river. A little way above Attock, the Indus receives the Kábul river, which brings down the waters of Afghánistán. The volume of those waters, as represented by the Kábul river, is about equal to the volume of the Indus at the point of junction. At Attock, the Indus has fallen, during a course of 860 miles, from its elevation of 16,000 feet at its source in Tibet to under 2000 feet. These 2000 feet supply its fall during the remaining 940 miles of its course. The estimated discharge of the Indus, after receiving all its Lower course of Indus.

tributaries, varies from 40,857 to 446,086 cubic feet per second, according to the season of the year. The enormous mass of water spreads itself over a channel of a quarter of a mile to nearly a mile in breadth. The effect produced by the evaporation from this fluvial expanse is so marked that the thermometer is reported to be 10° F. lower close to its surface than on the surrounding plains. The Indus supplies a precious store of water for irrigation works at various points along its course, and forms the great highway of the Southern Punjab and Sind. In its lower course it sends forth distributaries across a wide delta, with Haidarábád (Hyderábád) in Sind as its ancient political capital, and Karáchi (Kurrachee) as its modern port. The silt which it carries down has helped to form the islands, mud banks, and shallows, that have cut off the once famous emporia around the Gulf of Cambay from modern maritime commerce.

The Tsan-pu or Brahmaputra.

The BRAHMAPUTRA, like the Sutlej, rises near to the sacred lake of Mánasarowar. Indeed, the Indus, the Sutlej, and the Brahmaputra may be said to start from the same water-parting. The Indus rises on the western slope of the Kailás Mountain, the Sutlej on its southern, and the Brahmaputra at some distance from its eastern base. The Mariam-la and other saddles connect the northern mountains, to which the Kailás belongs, with the double Himálayan wall. They form an irregular watershed across the trough on the north of the double wall of the Himálayas. The Indus flows down a north-western valley from this transverse watershed; the Sutlej finds a more direct route to India by a south-western valley. The Brahmaputra, under its Tibetan name of Tsan-pu or Sangpu, has its source in 31° N. lat. and 83° E. long. It flows eastwards down the Tsan-pu valley, passing not far to the south of Lhasa, the capital of Tibet, and about 800 miles of its course are spent in the hollow trough on the north of the Himálayas.

The Kailás watershed.

The Brahmaputra confluents in Assam.

After receiving several tributaries from the confines of the Chinese Empire, the river twists round a lofty eastern range of the Himálayas, and enters British territory under the name of the DIHANG, near Sadiyá in Assam. It presently receives two confluents, the DIBANG river from the north, and the Brahmaputra proper from the north-east (lat. 27° 20′ N., long. 95° 50′ E.). The united triple stream then takes its well-known appellation of the Brahmaputra, literally the 'Son of Brahma or God.' It represents a drainage basin of 361,200 square miles, and its summer discharge at Goálpára in Assam has been computed at 146,188 cubic feet of water per second. During the rains the

channel rises 30 or 40 feet above its ordinary level, and its flood discharge is estimated at over 500,000 cubic feet per second. The Brahmaputra rolls down the Assam valley as a vast sheet of water, broken by numerous islands, and exhibiting the operations of alluvion and diluvion on a gigantic scale. It is so heavily freighted with silt from the Himálayas, that the least impediment placed in its current causes a deposit, and may give rise to a wide-spreading, almond-shaped mud bank. Steamers anchoring near the margin for the night sometimes find their sterns aground next morning on an accumulation of silt, caused by their own obstruction to the current. By centuries of alluvial deposit, the Brahmaputra has raised its banks and channel at parts of the Assam valley to a higher level than the surrounding country. Beneath either bank lies a low strip of marshy land, which is flooded in the rainy season. Beyond these swamps, the ground begins to rise towards the hills that hem in the valley of Assam on both sides.

Brahmaputra silt.

After a course of 450 miles south-west down the Assam valley, the Brahmaputra sweeps round the spurs of the Gáro Hills due south towards the sea. It here takes the name of the Jamuná, and for 180 miles rushes across the level plains of Eastern Bengal, till its junction with the Ganges at Goálanda (lat. 23° 50′ N., long. 89° 46′ E.). From this point the deltas of the two great river-systems of the Ganges and the Brahmaputra unite into one. But before reaching the sea, their combined volume has yet to receive by way of the CACHAR valley, the drainage of the eastern watershed between Bengal and Burma, under the name of the MEGHNA river, itself a broad and magnificent sheet of water.

The Brahmaputra in Bengal (Jamuná and Meghna).

The Brahmaputra is famous not only for its vast alluvial deposits, but also for the historical changes which have taken place in its course. One of the islands which it has created in its channel out of the silt torn away from the distant Himálayas covers 441 square miles. Every year thousands of acres of new land are thus formed out of mud and sand; some of them destined to be swept away by the inundations of the following year, others to become the homes of an industrious peasantry or the seats of busy river marts. Such formations give rise to changes in the bed of the river, which within a hundred years have completely altered the course of the Brahmaputra through Bengal. In the last century, the stream, on issuing from Assam, bent close round the spurs of the Gáro Hills in a south-easterly direction. This old bed of the Brahmaputra, the only one recognised by Major Rennel in 1765-75, has

Brahmaputra silt-islands.

Great changes in its course.

now been deserted. It retains the ancient name of Brahmaputra, but during the hot weather it is little more than a series of pools. The modern channel, instead of twisting round the Gáro Hills to the east, bursts straight southwards towards the sea under the name of the Jamuná, and is now separated at places by nearly 100 miles of level land from the main channel in the last century. A floating log, or any smallest obstruction, may cause the deposit of a mud island. This formation gives a new direction to the main channel, which in a few years may have eaten its way far across the plain, and dug out for itself a new bed at a distance of several miles. Unlike the Ganges and the Indus, the Brahmaputra is not used for artificial irrigation. But its silt-charged overflow annually replenishes the land. Indeed, the plains of Eastern Bengal watered by the Brahmaputra yield unfailing harvests of rice, with exhausting crops of jute, mustard, and oil-seeds, year after year, without any visible deterioration; and the valley of Assam is not less fertile, although inhabited by a less industrious race.

The Brahmaputra as a high-road.

The Brahmaputra is the great high-road of Eastern Bengal and Assam. Its tributaries and bifurcations afford innumerable waterways, almost superseding roads, and at the same time rendering road-construction and maintenance very difficult. The main river is navigable by steamers as high up as DIBRUGARH, about 800 miles from the sea; and its broad surface is crowded with country craft of all sizes and rigs, from the dug-out canoe and timber raft to the huge cargo ship, with its high bow and stern, its bulged-out belly, and spreading square-sails. The busy emporium of SIRAJGANJ, on its western bank, collects the produce of the surrounding Districts for transmission to Calcutta. Fifty thousand native craft, besides river steamers, passed Sirájganj in 1876. The downward traffic consists chiefly of tea (to the value of $1\frac{1}{2}$ million sterling), timber, caoutchouc, and raw cotton, from Assam; with jute, oil-seeds, tobacco, rice, and other grains, from Eastern Bengal. In return for these, Calcutta sends northwards by the Brahmaputra, European piece-goods, salt, and hardware; while Assam imports by the same highway large quantities of rice from the Bengal delta. The railway system of India taps the Brahmaputra at Goálanda, but a network of channels supply a cheaper means of transit for bulky produce across the delta to Calcutta.

Brahmaputra traffic.

The Gangetic River-system.

As the Indus, with its feeder the Sutlej, and the Brahmaputra, convey to India the drainage from the northern slopes

of the Himálayas, so the GANGES, with its tributary the Jumna, collects the rainfall from the southern slopes of the mountain wall, and pours it down upon the plains of Bengal. The Ganges traverses the central part of those plains, and occupies a more prominent place in the history of Indian civilisation than either the Indus in the extreme west or the Brahmaputra in the extreme east of Hindustán. It passes its whole life to the south of the Himálayas, and for thousands of years has formed a great physical influence in the development of the Indian races. The Ganges issues, under the name of the Bhágirathi, from an ice-cave at the foot of a Himálayan snowbed, 13,800 feet above the level of the sea (lat. 30° 56′ 4″ N., long. 79° 6′ 40″ E.). After a course of 1557 miles, it falls by a network of estuaries into the Bay of Bengal. It represents, with its tributaries, an enormous catchment basin, bounded on the north by a section of about 700 miles of the Himálayan ranges, on the south by the Vindhyá Mountains, and embracing 391,100 square miles. Before attempting any description of the functions performed by the Ganges, it is necessary to form some idea of the mighty masses of water which it collects and distributes. But so many variable elements affect the discharge of rivers, that calculations of their volume must be taken as estimates rather than as actually ascertained facts.

The growth of the Ganges.

At the point where it issues from its snowbed, the infant stream is only 27 feet broad and 15 inches deep, with an elevation of 13,800 feet above sea level. During the first 180 miles of its course, it drops to an elevation of 1024 feet. At this point, Hardwár, it has a discharge, in the dry season, of 7000 cubic feet per second. During the next 1000 miles of its journey, the Ganges collects the drainage of its catchment basin, and reaches Rájmahál about 1170 miles from its source. It has here a high flood discharge of 1,800,000 cubic feet of water per second, and an ordinary discharge of 207,000 cubic feet; longest duration of flood, about forty days. The maximum discharge of the Mississippi is given at 1,200,000 cubic feet per second.[1] The maximum discharge of the Nile at Cairo is returned at only 362,000 cubic feet; and of the Thames at Staines at 6600 cubic feet of water per second. One of the many mouths of the Ganges is 20 miles broad, with a depth, in the dry season, of 30 feet. But for a distance of about 200 miles, the sea face of Bengal entirely consists of the estuaries of the Ganges, intersected by low islands and promontories, formed out of its silt.

Discharge of Ganges.

[1] *Hydraulic Manual,* by Lowis D'A. Jackson, Hydraulic Statistics. Table II.

The Jumna.

In forming our ideas with regard to the Ganges, we must begin by dismissing from our minds any lurking comparison of its gigantic stream with the rivers which we are familiar with in England. A single one of its tributaries, the JUMNA, has an independent existence of 860 miles, with a catchment basin of 118,000 square miles, and starts from an elevation at its source of 10,849 feet above sea level. The Ganges and its principal tributaries are treated of at such length as the nature of this book permits in separate articles under their own names. I must here confine myself to a brief sketch of the work which they perform in the plains of Northern India, and of the position which they hold in the thoughts of the people.

Sanctity of the Ganges.

Of all great rivers on the surface of the globe, none can compare in sanctity with the Ganges, or Mother Gangá, as she is affectionately called by devout Hindus. From her source in the Himálayas, to her mouth in the Bay of Bengal, her banks are holy ground. Each point of junction of her main stream with a tributary has special claims to sanctity. But the tongue of land where the Ganges unites with her great sister river the Jumna, is the true *Prayág*, the place of pilgrimage to which hundreds of thousands of devout Hindus repair to wash away their sins in her sanctifying waters. Many of the other holy rivers of India borrow their sanctity from a supposititious underground connection with the Ganges. The ancient legend relates how Gangá, the fair daughter of King Himálaya (Himávat) and of his queen the air-nymph Menaka, was persuaded, after long supplication, to shed her purifying influence upon the sinful earth. The icicle-studded cavern from which she issues is the tangled hair of the god Siva. Loving legends hallow each part of her course; and from the names of her tributaries and of the towns along her banks, a whole mythology might be built up. Her estuary is not less sacred than her source. Ságar Island at her mouth is annually visited by a vast concourse of pilgrims, in commemoration of her act of saving grace; when, in order to cleanse the 60,000 damned ones of the house of Ságar, she divided herself into a hundred channels, thus making sure of reaching their remains, and so forming the delta of Bengal. The six years' pilgrimage from the source to the mouth and back again, known as *pradakshina*, is still performed by many; and a few devotees may yet be seen wearily accomplishing the meritorious penance of 'measuring their length' along certain parts of the route. To bathe in the Ganges at the great stated festivals washes away guilt, and those who have thus purified themselves carry back bottles to their less fortu-

Gangetic pilgrimages.

nate kindred in far-off provinces. To die and be buried on the river bank is the last wish of millions of Hindus. Even to exclaim 'Gangá, Gangá,' at the distance of 100 leagues from the river, say her more enthusiastic devotees, may atone for the sins committed during three previous lives.

Work done by the Ganges.

The Ganges has earned the reverence of the people by centuries of unfailing work done for them. She and her tributaries are the unwearied water-carriers for the densely peopled provinces of Northern India, and the peasantry reverence the bountiful stream which fertilizes their fields and distributes their produce. None of the other rivers of India comes near to the Ganges in works of beneficence. The Brahmaputra and the Indus may have longer streams, as measured by the geographer, but the upper courses of both lie beyond the great mountain wall in the unknown recesses of the Himálayas. Not one of the rivers of Southern India is navigable in the proper sense of the word. The Ganges begins to distribute fertility by irrigation as soon as she reaches the plains, within 200 miles of her source, and at the same time her channel becomes in some sort navigable. Thenceforward she rolls majestically down to the sea in a bountiful stream, which never becomes a merely destructive torrent in the rains, and never dwindles away in the hottest summer. Tapped by canals, she distributes millions of cubic feet of water every hour in irrigation; but her diminished volume is promptly recruited by great tributaries, and the wide area of her catchment basin renders her stream inexhaustible in the service of man. Embankments are in but few places required to restrain her inundations, for the alluvial silt which she spills over her banks affords in most parts a top-dressing of inexhaustible fertility. If one crop be drowned by the flood, the peasant comforts himself with the thought that his second crop will abundantly requite him. The function of the Ganges as a land-maker on a great scale will be alluded to hereafter.

The water-carrier and fertilizer of Bengal.

The Ganges the great highway of Bengal.

The Ganges has also played a pre-eminent part in the commercial development of Northern India. Until the opening up of the railway system within the past twenty years, her magnificent stream formed almost the sole channel of traffic between Upper India and the seaboard. The products not only of the river plains, but even the cotton of the Central Provinces, were formerly brought by this route to Calcutta. Notwithstanding the revolution caused by the railways, the heavier and more bulky staples of the country are still conveyed by the river, and the Ganges may yet rank as one of the greatest waterways

Traffic on the Ganges. in the world. The through traffic into Calcutta alone, by the Gangetic channels, was valued in 1877-78 at £14,000,000 sterling. At Bámangháta, on one of the canals near Calcutta, 178,627 cargo boats were registered in 1876-77; at Húglí, 124,357; and at Patná, 550 miles from the mouth of the river, the number of cargo boats entered in the register was 61,571. Articles of European commerce, such as wheat, indigo, cotton, opium, and saltpetre, prefer the railway; so also do the imports of Manchester piece-goods. But if we take into account the vast development in the export trade of oil-seeds, rice, etc., still carried by the river, and the growing interchange of food grains between various parts of the country, it seems probable that the actual amount of traffic on the Ganges in native craft has increased rather than diminished since the opening of the railways. At well-chosen points along her course, the iron lines touch her banks, and these river-side stations form centres for collecting and distributing the produce of the surrounding country. The Ganges, therefore, is not merely a rival, but a feeder, of the railway. Her ancient cities, such as ALLAHABAD, BENARES, and PATNA, have thus been able to preserve their former importance; while fishing villages like SAHIBGANJ and GOALANDA have by the same means been raised into thriving river marts.

Not diminished by the railway.

The great Gangetic cities. For, unlike the Indus and the Brahmaputra, the Ganges is a river of great historic cities. CALCUTTA, PATNA, and BENARES are built on her banks; AGRA and DELHI on those of her tributary, the Jumna; and ALLAHABAD on the tongue of land where the two sister streams unite. Many millions of human beings live by commerce along her margin. Calcutta, with its suburbs, contains a population of 794,645 (1876). It has a municipal revenue of £289,844 (1876-77), and a sea-borne commerce of over £50,000,000 sterling, with a landward trade also aggregating close on £50,000,000 sterling. This great city lies on the HUGLI, the most westerly of the mouths by which the Ganges enters the sea. To the eastwards stretches the delta, till it is hemmed in on the other side by the Meghna, the most easterly of the mouths of the Ganges; or rather the united estuary by which the combined waters of the Brahmaputra and Gangetic river-systems find their way into the Bay of Bengal.

Calcutta.

The part played by the great rivers. In order, therefore, to understand the plains of Northern India, we must have a clear idea of the part played by the great rivers; for the rivers first create the land, then fertilize it, and finally distribute its produce. The plains of Bengal

were in many parts upheaved by volcanic forces, or deposited in an aqueous era, before the present race of man appeared. But in other parts they have been formed out of the silt which the rivers bring down from the mountains; and at this day we may stand by and watch the ancient, silent process of land-making go on. A great Indian river like the Ganges has three distinct stages in its career from the Himálayas to the sea. In the first stage of its course, it dashes down the Himálayas, cutting out for itself deep gullies in the solid rock, and ploughing up glens between the mountains. In wading across the Sutlej feeders among the hills in the rainy season, my ankles have been sore from the pebbles which the stream carried with it; while even in the hot weather the rushing sand and gravel cause a prickly sensation across the feet. The second stage in the life of a river begins at the point where it emerges from the mountains upon the plains. It then runs more peacefully along the valleys, searching out for itself the lowest levels. It receives the drainage and mud of the country on both sides, absorbs tributaries, and rolls forward with an ever-increasing volume of water and silt. Every torrent from the Himálayas brings its separate contribution, which it has torn from the rocks or eroded from its banks. This process repeats itself throughout many thousands of miles; that is to say, down the course of each tributary from the Himálayas and across the northern plains of India. As long as the force of the current is maintained by a sufficient fall per mile, the river carries forward the silt thus supplied, and adds to it fresh contributions from its banks. Each river acquires a character of its own as it advances, a character which tells the story of its early life. Thus, the Indus is loaded with silt of a brown hue; the Chenáb has a reddish tinge; while the Sutlej is of a paler colour. The exact amount of fall required per mile depends upon the specific gravity of the silt which it carries. At a comparatively early stage, the current drops the heavy particles of rock or sand which it has torn from the Himálayan precipices. But a fall of 5 inches per mile suffices to hold in suspension the great body of the silt, and to add further accretions in passing through alluvial plains. The average fall of the Ganges between Benares and the delta-head (about 461 miles) is nearly 5 inches per mile.

Three stages in the life of a river.

First stage;

Second stage.

1st and 2d stages of a great river, as a silt-collector.

By the time the Ganges reaches the middle of Lower Bengal (Colgong to Calcutta), its average fall per mile has dropped to 4 inches. From Calcutta to the sea it varies, according to the tide, from 1 to 2 inches. The current is no

Loss of carrying-power.

longer strong enough to carry the burden of its silt, and accordingly deposits it.[1]

Third stage of a great river as a silt-depositor.

In Lower Bengal, therefore, the Ganges enters on the third stage of its life. Finding its speed checked by the equal level of the plains, and its bed raised by the deposit of its own silt, it splits out into channels, like a jet of water suddenly obstructed by the finger, or a jar of liquid dashed on the floor. Each of the new streams thus created throws out in turn its own set of channels to right and left. The country which their many offshoots enclose and intersect forms the delta of Bengal.

The delta of Bengal.

The present delta of the Ganges may be taken to commence at a point 1231 miles from its source, and 326 from the sea by its longest channel. At that point the head waters of the Húglí break off, under the name of the Bhágirathi, from the main channel, and make their way almost due south to the sea. The main volume pursues its course to the south-east, and a great triangle of land, with its southern base on the Bay of Bengal, is thus enclosed.

The deltaic distributaries.

Between the Húglí on the west and the main channel on the east, a succession of offshoots strike southward from the

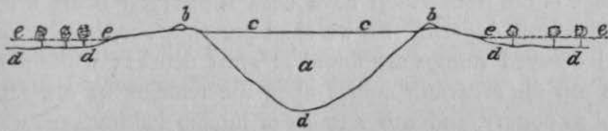
[1] The following facts may be useful to observers in Bengal who wish to study the most interesting feature of the country in which they live, namely, the rivers. Ten inches per mile is considered to be the fall which a navigable river should not exceed. The fall of the Ganges from the point where it unites with the Jumna at Allahábád to Benares (139 miles), is 6 inches per mile; from Benares to Colgong (326 miles), 5 inches per mile; from Colgong to the delta-head, where the Bhágirathi strikes off (about 135 miles), 4 inches per mile; from the delta-head to Calcutta (about 200 miles), also 4 inches per mile; from Calcutta to the sea (about 80 miles), 1 to 2 inches per mile, according to the tide. The fall of the Nile from the first Cataract to Cairo (555 miles), is 6½ inches per mile; from Cairo to the sea, it is very much less. The fall of the Mississippi for the first hundred miles from its mouth, is 1·80 inch per mile; for the second hundred miles, 2 inches; for the third hundred, 2·30 inches; for the fourth hundred, 2·57 inches; and for the whole section of 855 miles from the mouth to Memphis, the average fall is given as 4½ inches to the mile. The following table, calculated by Mr. David Stevenson (*Canal and River Engineering*, p. 315), shows the silt-carrying power of rivers at various velocities:—

Inches per Second.		Mile per Hour.	
3	=	0·170	will just begin to work on fine clay.
6	=	0·340	will lift fine sand.
8	=	0·4545	will lift sand as coarse as linseed.
12	=	0·6819	will sweep along fine gravel.
24	=	1·3638	will roll along rounded pebbles 1 inch in diameter.
36	=	2·045	will sweep along slippery angular stones of the size of an egg.

Ganges. The network of streams struggle slowly downwards over the level delta. Their currents are no longer able, by reason of their diminished speed, to carry along the silt or sand which the more rapid parent river has brought down from Northern India. They accordingly drop their burden of silt in their channels or along their margins, producing almond-shaped islands, and by degrees raising their banks and channels above the surrounding plains. When they spill over their banks, the largest amount of silt is deposited in the vicinity of their margin. In this way not only their beds, but also the land along their banks is gradually raised.

They raise their banks above surrounding country;

SECTION OF A DELTAIC CHANNEL OF THE GANGES.



a. The river channel; *b b.* the two banks; *c c.* the surface of the water when not in flood; *d d.* the low-lying swamps stretching away from either bank, into which the river flows when it spills over its banks in time of flood; *e e.* the dotted lines represent the level of the river surface.

The rivers of a delta thus build themselves up, as it were, into high-level canals, which in the rainy season overflow their banks and leave their silt upon the low country on either side. Thousands of square miles in Lower Bengal receive in this way each summer a top-dressing of new soil, brought free of cost for more than a thousand miles by the river currents from Northern India or the still more distant Himálayas—a system of natural manuring which yields a constant succession of rich crops.

thus building themselves up into canals.

At Goálanda, about half-way between the delta-head and the sea, the Ganges unites with the main stream of the Brahmaputra, and farther down with the Meghna. Their combined waters exhibit deltaic operations on the most gigantic scale. They represent the drainage collected by the two vast river-systems of the Ganges and the Brahmaputra, from an aggregate catchment basin of 752,000 square miles on both sides of the Himálayas, together with the rainfall poured

Junction of Ganges, Brahmaputra, and Meghna.

Their combined delta. into the Meghná from the Burmese watershed. The forces thus brought into play are beyond the calculations even of modern engineering. As the vast network of rivers creeps farther down the delta, they become more and more sluggish, and raise their beds still higher above the adjacent flats. Each set of channels has a depressed tract or swamp on either side, so that the lowest levels in a delta lie about half-way between the rivers. The stream constantly overflows into these depressed tracts, and gradually fills them up with its silt. The Deltaic swamps, water which rushes from the river into the swamps has sometimes the colour of pea-soup, from the quantity of silt which it carries. When it has stood a few days in the swamps, and the river flood subsides, the water flows back from the swamps into the river channel; but it has dropped all its silt, and is of a how filled up by silt. clear dark-brown hue. The silt remains in the swamp, and by degrees fills it up, thus slowly creating new land. The muddy foliage of the trees which have been submerged bears witness to the fresh deposit. As we shall presently see, buried roots and decayed stumps are found at great depths; while nearer the top the excavator comes upon the remains of old tanks, broken pottery, and other traces of human habitations, which within historic times were above the ground.

Last scene in the life of an Indian river. The last scene in the life of an Indian river is a wilderness of forest and swamp at the end of the delta, amid whose malarious solitude the network of tidal creeks merges into the sea. Here all the secrets of land-making stand disclosed. The river channels, finally checked by the dead weight of the sea, deposit most of their remaining silt, which emerges in the shape of banks or blunted headlands. The ocean-currents also find themselves impeded by the outflow from the rivers, and in their turn drop the burden of sand which they sweep along the coast. The two causes combine to build up breakwaters of mingled sand and mud upon the foreshore. Land-making in the estuary. In this way, while the solid earth gradually grows outward into the sea, owing to the deposits of river silt, peninsulas and islands are formed along the river mouths from the sand dropped by the ocean currents, and a double process of land-making goes on.

The great Indian rivers, therefore, not only supply new ground by depositing *chars* or islands in their beds, and by filling up the low-lying tracts or swamps beyond their margins, but also by forming banks and capes and masses of land at Egypt, the 'Gift of the Nile.' their mouths. They slowly construct their deltas by driving back the sea. Egypt was 'the gift of the Nile,' according to

her priests in the age of Herodotus; and the vast province of Lower Bengal is in the strictest scientific sense the gift of the Ganges, the Brahmaputra, and the eastern waters of the Meghna. The deltas of these three river-systems are now united into one, but three distinct delta-heads are observable. The delta-head of the Brahmaputra commences near the bend where the river now twists due south round the Gáro Hills, 220 miles from the sea as the crow flies; and the present delta-head of the Ganges begins at the point where the Bhágirathi breaks southward from the main channel, also about 220 miles in a direct line from the sea. The delta of the Meghna, which represents the heavy southern rainfall of the Khási Hills and the western drainage of the great watershed between Bengal and Independent Burma, commences in Sylhet District. The three deltas, instead of each forming a triangle like the Greek Δ, unite to form an irregular parallelogram, running inland 220 miles from the coast, with an average breadth also of about 220 miles. This vast alluvial basin of say 50,000 square miles was once covered with the deep sea, and it has been slowly filled up to the height of at least 400 feet by the deposits which the rivers have brought down. In other words, the united river-systems of the Ganges, Brahmaputra, and Meghna have torn away from the Himálayas and North-eastern Bengal enough earth to build up a lofty island, with an area of 50,000 square miles, and a height of 400 feet.

Bengal, the 'Gift of the Ganges.'

Size of the Bengal delta.

I have been careful not to overstate the work performed by the rivers. Borings have been carried down to 481 feet at Calcutta, but the auger broke at that depth, and it is impossible to say how much farther the alluvial deposits may go. There seem to have been successive eras of vegetation, followed by repeated depressions of the surface. These successive eras of vegetation now form layers of stumps of trees, peat-beds, and carbonized wood. Passing below traces of recently submerged forests, a well-marked peat-bed is found in all excavations around Calcutta at a depth varying from 20 to 30 feet; and decayed wood, with pieces of fine coal, such as occur in mountain streams, was met with at a depth of 392 feet. Fossilized remains of animal life have been brought up from 372 feet below the present surface. The subjoined footnote[1]

Successive depressions of the delta.

Its subterranean structure.

[1] 'Abstract Report of Proceedings of Committee appointed to Superintend the Borings at Fort-William, December 1835 to April 1840.' 'After penetrating through the surface soil to a depth of about 10 feet, a stratum of stiff blue clay, 15 feet in thickness, was met with. 'Underlying this

illustrates the successive layers of the vast island, so to speak, which the rivers have built up. It should be remembered that they have been aided in their work by the sand deposited by the ocean currents. But, on the other hand, the alluvial deposits of the Ganges and Brahmaputra commence far to the north of the present delta-head, and have a total area greatly exceeding the 50,000 square miles mentioned in the last paragraph. The Brahmaputra has covered over with thick alluvium the valley of Assam; its confluent, the Meghna, or rather the upper waters which ultimately form the Meghna, have done the same fertilizing task for the valleys of Cáchár and Sylhet; while the Ganges, with its mighty feeders, has prepared for the uses of man thousands of square miles of land in the broad hollow between the Himálayas and the Vindhyás, far to the west of its present delta. A large quantity of the finest and lightest silt, moreover, is carried out to sea, and discolours the Bay of Bengal 150 miles from the shore. The plains of Bengal are truly the gift of the great rivers.

Amount of silt brought down.

Several attempts have been made to estimate the time which the Ganges and Brahmaputra must have required for accomplishing their gigantic task. The borings already referred to,

was a light-coloured sandy clay, which became gradually darker in colour from the admixture of vegetable matter, till it passed into a bed of peat, at a distance of about 30 feet from the surface. Beds of clay and variegated sand, intermixed with *kankar*, mica, and small pebbles, alternated to a depth of 120 feet, when the sand became loose and almost semi-fluid in its texture. At 152 feet, the quicksand became darker in colour and coarser in grain, intermixed with red water-worn nodules of hydrated oxide of iron, resembling to a certain extent the laterite of South India. At 159 feet, a stiff clay with yellow veins occurred, altering at 163 feet remarkably in colour and substance, and becoming dark, friable, and apparently containing much vegetable and ferruginous matter. A fine sand succeeded at 170 feet, and this gradually became coarser, and mixed with fragments of quartz and felspar, to a depth of 180 feet. At 196 feet, clay impregnated with iron was passed through; and at 221 feet sand recurred, containing fragments of limestone with nodules of *kankar* and pieces of quartz and felspar; the same stratum continued to 340 feet; and at 350 feet a fossil bone, conjectured to be the humerus of a dog, was extracted. At 360 feet, a piece of supposed tortoiseshell was found, and subsequently several pieces of the same substance were obtained. At 372 feet, another fossil bone was discovered, but it could not be identified, from its being torn and broken by the borer. At 392 feet, a few pieces of fine coal, such as are found in the beds of mountain streams, with some fragments of decayed wood, were picked out of the sand, and at 400 feet a piece of limestone was brought up. From 400 to 481 feet, fine sand, like that of the seashore, intermixed largely with shingle composed of fragments of primary rocks, quartz, felspar, mica, slate, and limestone, prevailed, and in this stratum the bore has been terminated.'

together with an admirable account by Colonel Baird Smith in the *Calcutta Journal of Natural History*,[1] and the Rev. Mr. Everest's calculations, form the chief materials for such an estimate. Sir Charles Lyell [2] accepts Mr. Everest's calculation, made half a century ago, that the Ganges discharges 6368 millions of cubic feet of silt per annum at Gházípur. This would alone suffice to supply 355 millions of tons a year, or nearly the weight of 60 replicas of the Great Pyramid. 'It is scarcely possible,' he says, 'to present any picture to the mind which will convey an adequate conception of the mighty scale of this operation, so tranquilly and almost insensibly carried on by the Ganges.' About 96 per cent. of the whole amount are brought down during the four months of the rainy season. The work thus done in that season may be realized if we suppose that a fleet of two thousand great ships sailed down the river every day during the four months, and deposited a freight of 1400 tons of mud apiece each morning into the estuary. Ganges at Gházípur.

But the Ganges at Gházípur is only a single feeder of the mighty mass of waters which have formed the delta of Bengal. The Ganges, after leaving Gházípur, receives many of its principal tributaries, such as the GOGRA, the SON, the GANDAK, and the KUSI. It then unites with the Brahmaputra, and finally with the Meghna, and the total mass of mud brought down by these combined river-systems is estimated by Sir Charles Lyell to be at least six or seven times as much as that discharged by the Ganges alone at Gházípur. We have therefore, at the lowest estimate, about 40,000 millions of cubic feet of solid matter spread over the delta, or deposited at the river mouths, or carried out to sea, each year; according to Sir Charles Lyell, five times as much as is conveyed by the Mississippi to the Gulf of Mexico. The silt borne along during the rainy season alone represents the work which a fleet of 13,000 ships sailing down the Ganges each day of the four rainy months would perform, by discharging a freight of 1400 tons apiece each morning into the Bay of Bengal. General Richard Strachey took the area of the delta and coast-line within influence of the deposits at 65,000 square miles, and estimated that the rivers would require 45·3 years to raise it by 1 foot, even by their enormous deposit of 40,000 millions Estimated silt of united river-system at the delta. Time required by rivers to construct the delta.

[1] Vol. i. p. 324. The other authorities, chiefly from the *Journal* of the Bengal Asiatic Society, are fully quoted in the *Geology of India*, by Messrs. Medlicott and Blanford, vol. i. pp. 396 *et seq.* (Calcutta Government Press, 1879).

[2] *Principles of Geology*, vol. i. pp. 478 *et seq.* (1875).

of cubic feet of solid earth per annum. The rivers must have been at work 13,600 years in building up the delta 300 feet. But borings have brought up fluvial deposits from a depth of at least 400 feet. The present delta forms, moreover, but a very small part of the vast alluvial area which the rivers have constructed in the great dip between the Himálayas and the Vindhyán mountains. The more closely we scrutinise the various elements in such estimates, the more vividly do we realize ourselves in the presence of an almost immeasurable labour carried on during an almost immeasurable past.

River irrigation.

The land which the great Indian rivers thus create, they also fertilize. In the lower parts of their course we have seen how their overflow affords a natural system of irrigation and manuring. In the higher parts, man has to step in, and to bring their water by canals to his fields. Some idea of the enormous irrigation enterprises of Northern India will be found in the four articles on the Ganges and Jumna canals. The Ganges Canal had, in 1875, a length of 519 miles, and 3386 miles of distributaries, with an irrigated area of 889,167 acres (including both *rabí* and *kharíf* harvests), and a revenue of £289,925, on a total outlay of $2\frac{3}{4}$ millions sterling. The Lower Ganges Canal will bring under irrigation nearly $1\frac{1}{4}$ million acres (including both *rabí* and *kharíf*). The Eastern Jumna Canal had, in 1875, a length of 130 miles, with 618 miles of main distributaries; the Western Jumna Canal measures 405 miles, with an aggregate of 259 miles of distributing channels, besides private water-courses: the two irrigate together over half a million of acres.

The Rivers as highways.

The Indian rivers form, moreover, the great highways of the country. They supply cheap transit for the collection, distribution, and export of the agricultural staples. What the arteries are to the living body, the rivers are to the plains of Bengal. But the very vastness of their energy sometimes causes terrible calamities. Scarcely a year passes without floods, which sweep off cattle and grain stores and the thatched cottages, with anxious families perched on their roofs. In the upper part of their courses, where their water is carried by canals to the fields, the rich irrigated lands breed fever, and are in places rendered sterile by a saline crust called *reh*. Farther down, the uncontrollable rivers wriggle across the face of the country, deserting their old beds, and searching out new channels for themselves, it may be at a distance of many miles. Their old banks, clothed with trees and dotted along their route with villages, run like high ridges through the level rice-

The Rivers as destroyers: floods.

Saline deposits.

fields, and mark the deserted course of the river. I have mentioned how the Brahmaputra has deserted its main channel of the last century, and now rushes to the sea by a new course, far to the westwards. Such changes are on so vast a scale, and the eroding power of the current is so irresistible, that it is perilous to build any structure of a large or permanent character on the margin. The ancient sacred bed of the Ganges, through the Districts of Húglí and the Twenty-four Parganás, is now marked only by a succession of tanks, temples, and muddy pools. Many decayed or ruined cities attest the alterations in river-beds within historic times. In our own days, the Ganges passed close under Rájmahál, and that town (once the Muhammadan capital of Bengal) was selected as the spot where the railway should tap the river-system. The Ganges has now turned away in a different direction, and left the town high and dry, 7 miles from the bank. In 1787-88, the TISTA, a great river of Northern Bengal, broke away from its ancient bed. The ATRAI, or main channel, by which its waters found their way into the Ganges, has now dwindled into a stream which, in the dry weather, just suffices for boats of 2 tons burthen; while the Tista has branched to the eastwards, and pours into the Brahmaputra. In 1870, the RAVI, one of the Five Rivers of the Punjab, carried away the famous shrine of the Síkhs near DERA NANAK, and still threatens the town. If we go back to a more remote period, we find that the whole ancient geography of India is obscured by changes in the courses of the rivers. Thus Hastinápur, the city of the Pándavas, in the Mahábhárata, is with difficulty identified in a dried-up bed of the Ganges, 57 miles north-east of the present Delhi. The once splendid capital of KANAUJ, which also lay upon the Ganges, now moulders in desolation 4 miles away from the modern river-bank. The remnant of its inhabitants live for the most part in huts built up against the ancient walls.

Changes of river-beds.

Deserted river-capitals.

A similar fate on a small scale has befallen Kushtiá, the river terminus of the Eastern Bengal Railway. The channel silted up (1860-70), and the terminus had to be removed to Goálanda, farther down the river. My account of the HUGLI[1] records many emporiums and river capitals ruined from the same cause, and exhibits the vast engineering efforts which are required to secure the permanence of CALCUTTA as a great port. An idea of the forces at work may be derived from a single well-known phenomenon of the Húglí and the Meghná, the

The '*bore*.'

[1] See article HUGLI RIVER, *Imperial Gazetteer*, vol. iv. pp. 106, 112.

bore. The tide advances up their broad estuaries until checked by a rapid contraction of the channel. The obstructed influx, no longer able to spread itself out, rises into a wall of waters from 5 to 30 feet in height, which rushes onwards at a rate nearly double that of a stage-coach. Rennell stated that the Húglí *bore* ran from Húglí Point to Húglí Town, a distance of about 70 miles, in four hours. The native boatmen fly for the bank when they hear it coming. The river, which a few minutes before was covered with craft, is left bare and deserted before its approach. The *bore* of the Meghna is so 'terrific and dangerous' that no boat will venture down certain of the channels at spring-tide.

Hamlets torn away.

The Indian rivers not only desert the cities on their banks, but they sometimes tear them away. Many a hamlet and rice-field and ancient grove of trees is remorselessly eaten up each autumn by the current. A Bengal proprietor has sometimes to look on helplessly while his estate is being swept away, or converted into the bed of a broad, deep river. An important branch of Indian legislation has been developed to deal with the proprietary changes thus caused by alluvion and diluvion. The rivers have a tendency to straighten themselves out. Their course consists of a series of bends, in each of which the current sets against one bank, which it undermines; while it leaves still water on the other bank, in which new deposits of land take place. By degrees these twists become sharper and sharper, until the intervening land is almost worn away, leaving only a narrow tongue between the bends. The river finally bursts through the slender, solid strip, or a canal is cut through it by human agency, and direct communication is thus established between points formerly many miles distant by the windings of the river. This process of eating away soil from the one bank, against which the current sets, and depositing silt in the still water along the other, is constantly at work. Even in their quietest moods, therefore, the rivers steadily steal land from the old owners, and give it capriciously to a fresh set.

River-windings.

A railway terminus swept away.

During the rains these forces work with uncontrollable fury. We have just seen how the first terminus of the Eastern Bengal Railway at Kushtiá had been partially deserted by the Ganges. Its new terminus at Goálanda has suffered from an opposite but equally disastrous accident. Up to 1875, the Goálanda station stood upon a massive embankment near the water's edge, protected by masonry spurs running out to the river. About £130,000 had been spent upon these protective works,

and it was hoped that engineering skill had conquered the violence of the Gangetic floods. But in August 1875, the solid masonry spurs, the railway station, and the magistrate's court, were all swept away; and deep water covered their site. A new terminus had to be erected about 2 miles from the river bank. Indeed, each autumn the mighty currents undermine, and then rend away many thousand acres of solid land. They afterwards deposit their spoil in their channels farther down, and thus, as we have seen, leave high and dry in ruin many an ancient city on their banks. Their work, however, is on the whole beneficent; and a poem of Ossian might be made out of the names which the Indian peasant applies to his beloved rivers. Thus, we have the Goddess of Flowing Speech (*Saraswatí*), or, according to another derivation, the River of Pools; the Streak of Gold (*Suvarna-rekhá*); the Glancing Waters (*Chitra*); the Dark Channel (*Kála-nadí*); the Sinless One (*Pápagíní* = *Pápahíní*); the Arrowy (*Sharavatí*); the Golden Sands (*Suvarna-matí*); the Stream at which the Deer Drinks (*Haringháta*); the Forest Hope (*Banás*); the Old Twister (*Burabalang*); besides more common names, such as the All-Destroyer, the Forest King, the Lord of Strength, the Silver Waters, and the Flooder.

Poetry of Indian river-names.

Throughout the river plains of Northern India, two harvests, and in some Provinces three, are reaped each year. These crops are not necessarily taken from the same land; but in many Districts the best fields have to yield two harvests within the twelve months. In Lower Bengal, pease, pulses, oil-seeds, and green crops of various sorts, are reaped in spring; the early rice crops in September; the great rice harvest of the year, and other grains, in November and December. Before these last have been gathered in, it is time to prepare the ground for the spring crops, and the husbandman knows no rest except during the hot weeks of May, when he is anxiously waiting for the rains. Such is the course of agriculture in Lower Bengal. But it should always be remembered that rice is the staple crop in a limited area of India, and that it forms the every-day food of only 67 millions, or one-third of the population. It has been estimated that, in the absence of irrigation, the rice crop requires an annual rainfall of at least 36 inches; and an Indian Province requires an average fall of not less than 40 to 60 inches in order to grow rice as its staple crop. A line might almost be drawn across Behar, to the north of which the food of the people ceases to be rice, and becomes wheat and millets, etc. There are,

Crops of the river plains.

The three harvests of the year.

Rice.

indeed, rice-growing tracts in favoured, low-lying Districts of Northern India, and in the river-valleys or deltas and level strips around the southern coast; but in Upper India their produce is consumed only by the richer classes.

Scenery of the river plains.

The chief products of each Province are carefully enumerated in the separate provincial notices in the *Imperial Gazetteer*, and an account of the most important will be found under the heading of Agriculture, farther on in the present article. I here allude to them only so far as is necessary to give a general idea of the scenery of the river plains. In the northern and drier regions along the upper courses of the rivers, the country rises gently from their banks in fertile undulations, dotted with mud villages and adorned with noble trees. Mango groves scent the air with their blossom in spring, and yield their abundant fruit in summer. The spreading banyan, with its colonnades of hanging roots; the stately *pipal*, with its green masses of foliage; the leafless wild cotton-tree, glowing with heavy crimson flowers; the tall, delicate tamarind, and the quick-growing *bábul*, rear their heads above the crop fields. As the rivers approach the coast, the palm-trees take possession of the scene. The ordinary landscape in the delta is a flat stretch of rice-fields, fringed round with an evergreen border of bamboos, cocoa-nuts, date-trees, areca, and other coronetted palms. This densely peopled tract seems at first sight bare of villages, for each hamlet is hidden away amid its own grove of plantains and wealth-giving trees. The bamboo and cocoa-nut play a conspicuous part in the industrial life of the people; and the numerous products derived from them, including rope, oil, food, and timber, have been dwelt on with admiration by many writers.

In North-Western Bengal.

In the delta.

Crops of North-Western Bengal; of the delta.

The crops also change as we sail down the river. In the north, the principal grains are wheat, barley, indian corn, and a variety of millets, such as *joár* (Holcus sorghum) and *bájra* (Holcus spicatus). In the delta, on the other hand, rice is the staple crop, and the universal diet. In a single District, Rangpur, I have named 295 separate kinds of rice known to the peasant,[1] who has learned to grow his favourite crop in every locality, from the solid field, which yields the *áman* harvest, to the swamps 12 feet deep, on the surface of whose waters the rice ears may be seen struggling upwards for air. Sugar-cane, oil-seeds, flax, mustard, sesamum, palma-christi, cotton, tobacco, indigo, safflower and other dyes, ginger, coriander, capsicum, cummin, and precious spices, are grown both in

[1] *Statistical Account of Bengal*, vol. vii. pp. 234-237.

the North-Western or Upper Provinces, and in the moister valleys and delta of Lower Bengal. A whole pharmacopœia of native medicines, from the well-known aloe and castor-oil, to obscure but valuable febrifuges, is derived from shrubs, herbs, and roots. Resins, gums, varnishes, india-rubber, perfume-oils, and a hundred articles of commerce or luxury, are obtained from the fields and the forests. Vegetables, both indigenous and imported from Europe, largely enter into the food of the people. The melon and huge yellow pumpkin spread themselves over the thatched roofs; fields of potato, *brinjal*, and yams are attached to the homesteads. The tea-plant is reared on the hilly ranges that skirt the plains both in the North-West and in Assam; the opium poppy about half-way down the Ganges, around Benares and in Behar; the silkworm mulberry still farther down in Lower Bengal; while the jute fibre is essentially a crop of the delta, and would exhaust any soil not fertilized by river floods. Even the jungles yield the costly lac and the *tasar* silk cocoons. The *mahuá*, also a gift of the jungle, produces the fleshy flowers which form a staple article of food among the hill tribes, and when distilled supply a cheap spirit. The *sál*, *sissu*, *tún*, and many other indigenous trees yield excellent timber. Flowering creepers, of gigantic size and gorgeous colours, festoon the jungle; while each tank bears its own beautiful crop of the lotus and water-lily. Nearly every vegetable product which feeds and clothes a people, or enables it to trade with foreign countries, abounds.

Drugs, fibres, oil-seeds, etc.

Jungle products.

Having described the leading features of the Himálayas on the north, and of the great river plains at their base, I come now to the third division of India, namely, the three-sided tableland which covers the southern half or more strictly peninsular portion of India. This tract, known in ancient times as the Deccan (Dakshin), literally *the south*, comprises the CENTRAL PROVINCES, BERAR, MADRAS, BOMBAY, MYSORE, with the Native Territories of the Nizám, Sindhia, Holkar, and other Feudatory States. It had in 1872 an aggregate population of over 90 millions. For the sake of easy remembrance, therefore, we may take the inhabitants of the river plains in the north at nearly 150 millions, and the inhabitants of the southern three-sided tableland at nearly 100 millions. The Deccan, in its local acceptation, is restricted to the high tract between the Narbadá (Nerbudda) and the Kistna rivers; but it is popularly understood to include the whole country south of the Vindhyás as far as Cape Comorin. It slopes up from the southern edge

Third Region of India—The Southern Tableland.

The Deccan;

Its three supporting mountain-walls.

of the Gangetic plains. Three ranges of hills support its northern, its eastern, and its western side, the two latter meeting at a sharp angle near Cape Comorin.

The Vindhyá Mountains;

The northern side rests on confused ranges, running with a general direction of east to west, and known in the aggregate as the Vindhyá Mountains. The Vindhyás, however, are made up of several distinct hill systems. Two sacred peaks stand as outposts in the extreme east and west, with a succession of ranges stretching 800 miles between. At the western extremity, Mount Abu, famous for its exquisite Jain temples, rises, as a solitary outlier of the Aravalli Hills, 5650 feet above the Rájputána plains, like an island out of the sea. Beyond the southern limits of that plain, the Vindhyá range of modern geography runs almost due east from Guzerat, forming the northern wall of the Narbadá valley. The Sátpura Mountains stretch, also east and west, to the south of that river, and form the watershed between it and the Tápti. Towards the heart of India, the eastern extremities of these two ranges end in the highlands of the Central Provinces with their lofty level plains. Passing still farther east, the hill system finds a continuation in the Káimur range and its congeners; which eventually end in the outlying peaks and spurs that mark the western boundary of Lower Bengal, and abut on the old course of the Ganges under the name of the Rájmahál Hills. On the extreme east, Mount Parasnáth—like Mount Abu on the extreme west, sacred to Jain rites—rises to 4400 feet above the level of the Gangetic plain. The various ranges of the Vindhyás, from 1500 to over 4000 feet high, form, as it were, the northern wall and buttresses which support the central tableland. Now pierced by road and railway, they stood in former times as a barrier of mountain and jungle between Northern and Southern India, and formed one of the main difficulties in welding the whole into an empire. They consist of vast masses of forests, ridges, and peaks, broken by cultivated valleys and broad high-lying plains.

their various ranges;

the ancient barrier between Northern and Southern India.

The Gháts.

The other two sides of the elevated southern triangle are known as the Eastern and Western GHATS. These chains start southwards from the eastern and western extremities of the Vindhyás, and run along the eastern and western coasts of India. The Eastern Gháts stretch in fragmentary spurs and ranges down the Madras Presidency, receding inland and leaving broad, level tracts between their base and the coast. The Western Gháts form the great sea-wall of the Bombay Presidency, with only a narrow strip between them and the

Eastern Gháts.

Western Gháts.

shore. Some of them rise in magnificent precipices and headlands out of the ocean, and truly look like colossal 'passes or landing-stairs' (*gháts*) from the sea. The Eastern Gháts have an average elevation of 1500 feet. The Western Gháts ascend more abruptly from the sea to an average height of about 3000 feet, with peaks up to 4700, along the Bombay coast; rising to 7000 and even 8760 feet in the upheaved angle where they unite with the Eastern Gháts, towards their southern extremity.

The upheaved southern angle.

The inner triangular plateau thus enclosed lies from 1000 to 3000 feet above the level of the sea. But it is dotted with peaks and seamed with ranges exceeding 4000 feet in height. Its best known hills are the Nílgiris (Blue Mountains), with the summer capital of Madras, Utakamand, 7000 feet above the sea. Their highest point is Dodábetta peak, 8760 feet, at the upheaved southern angle. The interior plateau is approached by several famous passes from the level coast-strip on the western side. The Bor-Ghát, for example, ascends a tremendous ravine about 40 miles south-east of Bombay city, to a height of 1798 feet. In ancient times it was regarded as the key to the Deccan, and could be held by a small band against any army attempting to penetrate from the coast. A celebrated military road was constructed by the British up this pass, and practically gave the command of the interior to the then rising port of Bombay. A railway line has now been carried up the gorge, twisting round the shoulders of mountains, tunnelling through intervening crags, and clinging along narrow ledges to the face of the precipice. At one point the zigzag is so sharp as to render a circuitous turn impossible, and the trains have to stop and reverse their direction on a levelled terrace. The Thall Ghát, to the north-east of Bombay, has in like manner been scaled both by road and railway. Another celebrated pass, farther down the coast, connects the military centre of Belgáum with the little port of Vingurla. These 'landing-stairs' from the sea to the interior present scenes of rugged grandeur. The trap rocks stand out, after ages of denudation, like circular fortresses flanked by round towers, from the mass of hills behind; natural fastnesses, which in the Marhatta times were rendered impregnable by military art. In the south of Bombay, the passes climb up from the sea through thick forests, the haunt of the tiger and the mighty bison. Still farther down the coast, the western mountain-wall dips deep into the Palghát valley—a remarkable gap,

The central triangular plateau.

Passes from the coast; the Bor-Ghát,

the Thall Ghát,

the Palghát Pass.

20 miles broad, and leading by an easy route, only 1000 feet in height, from the seaboard to the interior. A third railway and military road start by this passage from Beypur across the peninsula to Madras.

The rivers of the inner plateau;

On the eastern side of India, the Gháts form a series of spurs and buttresses for the elevated inner plateau rather than a continuous mountain wall. They are traversed by a number of broad and easy passages from the Madras coast. Through these openings, the rainfall of the southern half of the inner plateau reaches the sea. The drainage from the northern or Vindhyán edge of the three-sided tableland falls into the Ganges. The Narbadá (Nerbudda) and Tápti carry the rainfall of the southern slopes of the Vindhyás and of the Sátpura Hills, by two almost parallel lines, into the Gulf of Cambay. But from Surat, in lat. 21° 9′, to Cape Comorin, in lat. 8° 4′, no great river succeeds in piercing the Western Gháts, or in reaching the Bombay coast from the interior tableland. The Western Gháts form, in fact, a lofty unbroken barrier between the waters of the central plateau and the Indian Ocean. The drainage has therefore to make its way across India to the eastwards, now twisting sharply round projecting ranges, then tumbling down ravines, or rushing along valleys, until the rain which the Bombay sea-breeze has dropped upon the Western Gháts finally falls into the Bay of Bengal. In this way the three great rivers of the Madras Presidency, viz. the Godávari, the Kistna (Krishna), and the Káveri (Cauvery), rise in the mountains overhanging the Bombay coast, and traverse the whole breadth of the central tableland before they reach the sea on the eastern shores of India.

no exit westwards.

Historical significance of the Eastern and Western Gháts,

The physical geography and the political destiny of the two sides of the Indian peninsula, have been determined by the characteristics of the mountain ranges on either coast. On the east, the country is comparatively open, and was everywhere accessible to the spread of civilisation. On the east, therefore, the ancient dynasties of Southern India fixed their capitals. Along the west, only a narrow strip of lowland intervenes between the barrier range and the seaboard. The inhabitants of those tracts remained apart from the civilisation of the eastern coast. To this day, one of their ruling races, the Nairs, retain land-tenures and social customs, such as polyandry, which mark a much ruder stage of human advancement than Hinduism, and which in other parts of India only linger among isolated hill tribes. On the other hand, the people of the western coast enjoy a bountiful

rainfall, unknown in the inner plateau and the east. The monsoon dashes its rain-laden clouds against the Western Gháts, and pours from 100 to 200 inches of rain upon their maritime slopes from Khándesh down to Malabar. By the time the monsoon has crossed the Western Gháts, it has dropped the greater part of its aqueous burden, and central Districts, such as Bangalore, obtain only about 35 inches. The eastern coast also receives a monsoon of its own; but, except in the neighbourhood of the sea, the rainfall throughout the Madras Presidency is scanty, seldom exceeding 40 inches in the year. The deltas of the three great rivers along the Madras coast form, however, tracts of inexhaustible fertility; and much is done by irrigation to husband and utilize both the local rainfall and the accumulated waters which the rivers bring down.

and of the rainfall.

The ancient Sanskrit poets speak of Southern India as buried under forests; and *sál*, ebony, *sissu*, teak, and other great trees, still abound. The Western Gháts, in particular, are covered with magnificent vegetation wherever a sapling can take root. The mountains of Kánara, Malabar, Mysore, and Coorg, furnish the Forest Department with its richest supplies. Along some of their highest ridges grow what is officially known as 'The Evergreen Forest.' The *pún* (Calophyllum angustifolium) shoots up straight to a hundred feet without branch or bend. Few trees in the world are better suited for ships' spars and masts. The fruit-yielding jack (Artocarpus integrifolia), the iron-wood (Mesua ferrea), the Indian mahogany (Cedrela toona), ebony (Diospyros ebenaster), the *champac* (Michelia champaca), teak (Tectona grandis), blackwood unsurpassed for carvings (Dalbergia latifolia), *sál* admirable for building purposes (Shorea robusta) the precious sandal-wood (Santalum album), and the universal bamboo,—these are a few of the forest products of the Gháts and inner ranges of the three-sided southern plateau. Interspersed among the tall trees flourish an infinite variety of shrubs, gorgeous parasites, and creepers. European enterprise has covered many a hillside in Mysore and Madras with coffee. Cinchona and tea are also grown.

Products of southern table-land.

Trees and Forests.

In wild tropical beauty nothing can surpass the luxuriance of an untouched Coorg forest, as viewed from one of the peaks of the Western Gháts. A waving descent of green, broken into terraces of varying heights, slopes downward on every side. North and south run parallel ranges of mountains, wooded almost to the summit; while to the west, thousands of feet

Scenery of southern hill-country.

below, the view is bounded by the blue line of the Arabian Sea. Wild animals of many kinds breed in the jungle, and haunt the grassy glades. The elephant, the tiger, and the leopard, the furious bison, the stately *sámbhar* deer, and the jungle sheep, with a variety of smaller game, afford adventure to the sportsman. During the rains magnificent cataracts dash over the precipices. The Garsoppa falls, in the Western Gháts, are said to have a descent of 1000 feet.

Crops of Southern India.

In the valleys, and upon the elevated plains of the central plateau, tillage has driven back the jungle to the hilly recesses, and fields of wheat and many kinds of smaller grain or millets, tobacco, cotton, sugar-cane, and pulses, spread over the open country. The black soil of Southern India is proverbial for its fertility; and the level strip between the Western Gháts and the sea rivals even Lower Bengal in its fruit-bearing palms, rice harvests, and rich succession of crops. The deltas on the eastern side have from time immemorial been celebrated as rice-bearing tracts. The interior of the tableland, as may be inferred from the scanty rainfall, is liable to droughts. The cultivators contend against the calamities of nature by varied systems of irrigation; drawing their water-supply in some Districts from wells, in others from tanks and reservoirs, or from large artificial lakes formed by damming up the ends of river valleys. They thus store the rain brought during a few months by the monsoon, and husband it for use throughout the whole year. The food of the common people consists chiefly of small grains, such as *joár*, *bájra*, and *rágí*. The great export is cotton, with wheat from the northern Districts of Bombay. The pepper trade of Malabar dates from far beyond the age of Sindbad the Sailor, and probably reaches back to Roman times. Cardamoms, spices of various sorts, dyes, and many medicinal drugs, are also grown.

Minerals; Coal, Lime, Iron.

It is on the three-sided tableland, and among the hilly spurs which project from it, that the mineral wealth of India lies hid. Coal-mining now forms a great industry on the north-eastern side of the tableland, in Bengal; and also in the Central Provinces. The commercial aspects of this and similar undertakings will be dealt with in a later section of the present article. Beds of iron-ore and limestone have been worked in several places, and hold out a possibility of a new era of enterprise to India in the future. Many Districts are rich in building stone, marbles, and the easily worked laterite. Copper and other metals exist in small quantities.

The diamonds of Golconda were long famous. Gold dust has from very ancient times been washed out of the river-beds; and quartz-crushing for gold is being attempted on scientific principles in Madras and Mysore.

Recapitulation: the Three Regions of India.

I have now briefly surveyed the three regions of India. The first, or the Himálayas, lies for the most part beyond the British frontier; but a knowledge of it supplies the key to the history and climatic conditions of India. The second region, or the River Plains in the north, formed the theatre of the ancient race-movements which shaped the civilisation and political destinies of the whole Indian peninsula. The third region, or the Triangular Tableland in the south, has a character quite distinct from either of the other two divisions, and a population which is now working out a separate development of its own. Broadly speaking, the Himálayas are peopled by Turanian tribes. The great River Plains of Bengal are still the home of the Aryan race. The Triangular Tableland has formed an arena for a long struggle between that gifted race from the north, and what is known as the Dravidian stock in the south.

Their races and languages.

British Burma;

To this vast Empire the English have added BRITISH BURMA, consisting of the lower valley of the Irawadi (Irrawaddy) with its delta, and a long flat strip stretching down the eastern side of the Bay of Bengal. A full account of Burma will be found under its name in the *Imperial Gazetteer*. Between the narrow maritime tract and the Irawadi runs a backbone of lofty ranges. These ranges, known as the Yoma (Roma) Mountains, are covered with dense forests, and both historically and geographically separate the Irawadi valley from the strip of coast. The Yoma (Roma) ranges have peaks exceeding 4000 feet, and culminate in the Blue Mountain, 7100 feet. They are crossed by passes, one of which, the An or Aeng, rises to 4668 feet above the sea level. A thousand creeks indent the seaboard; and the whole of the level country, both on the coast and in the Irawadi valley, forms one vast rice-field. The rivers float down an abundant supply of teak and bamboos from the north. Tobacco, of an excellent quality, supplies the little cigars which all Burmese (men, women, and children) smoke, and affords an industrial product of increasing value. Arakan and Pegu, or the Provinces of the coast strip, and also the Irawadi valley, contain mineral oil-springs. Tenasserim forms a long narrow maritime Province, running from the mouths of the Irawadi southward to Point Victoria, where British territory adjoins Siam. It is rich in tin mines,

Its valleys and mountains;

Its products.

Tenasserim.

and contains iron-ores equal to the finest Swedish; besides gold and copper in smaller quantities, and a very pure limestone. Rice and timber form the staple exports of Burma; and rice is also the universal food of the people. British Burma, with Tenasserim, has an area of 88,556 square miles; and a population, in 1876, of just under three millions of persons.

General survey of the People.

THE POPULATION OF INDIA, with British Burma, amounted in 1872 to 240 millions, or, as already mentioned, exactly double the number which Gibbon estimated for the Roman Empire in the height of its power. But the English Government has respected the rights of native chiefs who are willing to govern well, and one-third of the country still remains in the hands of its hereditary rulers. Their subjects make up 54 millions, or over one-fifth of the whole Indian people. The British territories therefore comprise only two-thirds of the area of India, and less than four-fifths, or 186 millions of its inhabitants.

The Feudatory Chiefs.

The native princes govern their States with the help and under the advice of a Resident, whom the English Viceroy stations at their courts. Some of them reign almost as independent sovereigns; others require more assistance, or a stricter control. They form a magnificent body of feudatory rulers, possessed of revenues and armies of their own. The more important exercise the power of life and death over their subjects; but the authority of each is limited by treaties or engagements, acknowledging their 'subordinate dependence' to the British Government. That Government, as Suzerain in India, does not allow its feudatories to make war upon each other, or to form alliances with foreign States. It interferes when any chief misgoverns his people; rebukes, and if needful removes, the oppressor; protects the weak; and firmly imposes peace upon all.

Their various powers.

British India—the Twelve Provinces,

The British possessions are distributed into twelve governments, each with a separate head; but the whole is under the orders of the supreme Government of India, consisting of the Governor-General in Council. The Governor-General, who also bears the title of Viceroy, holds his court and government at Calcutta in the cold weather, and during summer at Simla, 7000 feet up the Himálaya Mountains. The Viceroy of India, and the Governors of Madras and

Bombay, are usually British statesmen appointed in England by the Queen. The heads of the other ten Provinces are selected for their merit from the Anglo-Indian services, and are nominated by the Viceroy, subject in the case of the Lieutenant-Governorships to the approval of the Secretary of State. how governed.

The following tables show the area and population of the twelve governments of British India, and of the Feudatory States also arranged in twelve groups :— Area and population.

THE TWELVE GOVERNMENTS OR PROVINCES OF BRITISH INDIA.

(Based on the Census of 1871-72.)

NAME OF PROVINCE (Exclusive of the Native States attached to it).	Area in Square Miles.	Total Population.	Number of Persons per Square Mile.
1. Government of Madras, ...	138,856	31,672,613	228
2. Government of Bombay, ...	124,102	16,349,206	131
3. Lieutenant-Governorship of Bengal, .	156,200	60,502,897	387
4. Lieutenant-Governorship of Punjab, .	104,975	17,611,498	168
5. Lieutenant-Governorship of the North-Western Provinces,	81,403	30,781,204	378
6. Chief-Commissionership of Oudh,[1]	23,992	11,220,232	468
7. Chief-Commissionership of the Central Provinces,	84,208	8,201,519	97
8. Chief - Commissionership of British Burma,	88,556	2,747,148	31
9. Chief-Commissionership of Assam,[2] .	55,384	4,162,019	75
10. Commissionership of Berar,[3] . .	17,711	2,227,654	126
11. Commissionership of Ajmere, . .	2,711	396,889	146
12. Commissionership of Coorg, . . .	2,000	168,312	84
Total for British India, . .	880,098	186,041,191	211

[1] Oudh has been incorporated, since 1877, with the North-Western Provinces. The Lieutenant-Governor of the North-Western Provinces is also Chief-Commissioner of Oudh.

[2] Assam was separated from the Lieutenant-Governorship of Bengal in 1874, and erected into a Chief-Commissionership. The area includes an estimate for the unsurveyed tracts in the Cáchár, Nágá, and Lakhimpur Hills.

[3] Berar consists of the six 'Assigned Districts' made over to the British administration by the Nizám of Haidarábád for the maintenance of the Haidarábád Contingent, which he was bound by treaty to maintain, and in discharge of other obligations.

THE TWELVE GROUPS OF NATIVE STATES FORMING FEUDATORY INDIA.

	Name of State.	Total Area in Square Miles.	Total Population.	Number of Persons per Square Mile.
Under the Governor-General in Council.	1. Rájputána,	130,989	10,192,871	77
	2. Haidarábád (Nizám's Dominions)	80,000	9,000,000	112
	3. Central Indian Agency and Bundelkhand,	89,098	8,360,571	93
	4. Baroda,	4,399	2,000,225	454
	5. Mysore,[1]	29,325	5,055,412	172
	6. Manipur,	7,584	126,000	16
Under the Local Governments.	7. Native States under Bombay Government,	66,410	6,784,482	102
	8. Native States under Madras Government,	9,818	3,289,392	335
	9. Native States under Bengal Government,	37,988	2,328,440	61
	10. Native States under Punjab Government,	114,742	5,367,042	46
	11. Native States under North-Western Provinces,	5,125	657,013	128
	12. Native States under the Central Provinces,	29,112	1,049,710	36
	Total for Feudatory India,	604,590	54,211,158	89

If to the foregoing figures we add the French and Portuguese possessions, we obtain the total for all India. Thus—

ALL INDIA, INCLUDING BRITISH BURMA.
(Based chiefly on the Census of 1871–72.)

	Area in Square Miles.	Population.	Number of Persons per Square Mile.
British India,	880,098	186,041,191	211
Feudatory India,	604,590	54,211,158	89
Portuguese Settlements,	1,086	407,712	Chiefly in Towns or Suburban.
French Settlements,	178	271,460	
Total for all India, including British Burma,	1,484,952	240,931,521	162

Density of the population,

British India, therefore, supports a population much more than twice as dense as that of the Native States. If we exclude the outlying and lately-acquired Provinces of British

[1] Mysore has been under direct British administration since 1830, but is to be replaced under native rule in March 1881; its young chief having attained his majority. I accordingly show it among the Native States.

Burma and Assam, the proportion is almost exactly threefold, or 243 persons to the square mile. How thick this population is, may be realized from the fact that France has only 180 people to the square mile; while even in crowded England, wherever the density approaches 200 to the square mile it ceases to be a rural population, and has to live, to a greater or less extent, by manufactures, mining, or city industries.[1] In certain areas of Bengal, two persons have to live on the proceeds of each *cultivated* acre, or 1280 persons to each cultivated square mile. The Famine Commissioners reported in 1880, that over 6 millions of the peasant-holdings of Bengal, or two-thirds of the whole, averaged from 2 to 3 acres a-piece. Allowing for women and children, this probably represents a population of about 24 millions struggling to live off 15 million acres, or just over half an acre a-piece.

compared with France and England.

The density of particular localities is but imperfectly shown by averages taken over large administrative divisions. Thus, the average for Tirhut District, in 1872, was 691 persons to the square mile; but in five of its police divisions (*thánás*) the pressure of the population was between 800 and 900 per square mile, not allowing for uncultivated land. The following twelve Districts illustrate the pressure of the population over large areas in different Provinces of Northern India. It will be remembered that a density of 640 persons per square mile means one person to each acre, without any allowance for land not under tillage, or incapable of it.

Density of special tracts.

PRESSURE OF POPULATION IN CERTAIN DISTRICTS, ACCORDING TO CENSUS OF 1872.

District.	Province.	Total Area. Square Miles.	Population per Square Mile.
Húglí, with Howrah,[2] .	Lower Bengal,	1424	1045
24 Parganás, without Calcutta,	Do.	2788	793
Sáran, ...	Behar,	2654	778
Patná, ...	Do.	2101	742
Tirhut, ...	Do.	6343	691
Farídpur, . . .	Lower Bengal,	1496	677
Dacca, ...	Do.	2897	640
Benares, . . .	N.-W. Provinces,	996	797
Jaunpur, . . .	Do.	1556	659
Gházípur, . . .	Do.	2168	621
Lucknow, . . .	Oudh,	1392	697
Bára Bánki, . . .	Do.	1348	649

[1] Report on the Census of England and Wales for 1871.

[2] Includes a suburb of Calcutta.

Absence of large towns.

Unlike England, India has few large towns, and no great manufacturing centres. Thus, in England and Wales 42 per cent., or nearly one-half of the population, live in towns with upwards of 20,000 inhabitants, while in British India only a little over 4 per cent., or not one-twentieth of the people, live in such towns.[1] India, therefore, is almost entirely a rural country; and many of the so-called towns are mere groups of villages, in the midst of which the cattle are driven a-field, and ploughing and reaping go on. Calcutta itself has grown out of a cluster of hamlets on the bank of the Húglí; and the term 'municipality,' which in Europe is only applied to towns, often means in India a collection of rural homesteads for the purposes of local government.

Population entirely rural.

Over-crowded Districts.

We see, therefore, in India, a dense population of husbandmen. Wherever their numbers exceed 1 to the acre, or 640 to the square mile,—excepting in suburban districts or in irrigated tracts,—the struggle for existence becomes hard. At half an acre a-piece that struggle is very hard. In such Districts, a good harvest yields just sufficient food for the people; and thousands of lives depend each autumn on a few inches more or less of rainfall. The Government may, by great efforts, feed the starving in time of actual famine; but it cannot stop the yearly work of disease and death among a steadily underfed people. In these overcrowded tracts the population reaches the stationary stage. For example, in Allahábád District during 20 years, the inhabitants increased by only 6 persons in 10,000 each year. In still more densely peopled localities upon the line of railway, facilities for migration have drained off the excessive population, and their total number in 1872 was less than it had been 20 years before. On the other hand, in thinly peopled Provinces the inhabitants quickly multiply. Thus, when we obtained the District of Amherst in 1824 from the king of Burma, it had been depopulated by savage native wars. The British established their firm rule; people began to flock in; and by 1829 there were 70,000 inhabitants. In less than 50 years the population had increased by more than threefold, or to 240,000 in 1872.

Under-peopled Provinces.

The 'immobile' Indian peasant.

In some parts of India, therefore, there are more husbandmen than the land can feed; in other parts, vast tracts of fertile soil still await the cultivator. In England the people would move freely from the over-populated districts to the thinly-inhabited ones; but in India the peasant clings to his hereditary homestead long after his family has outgrown his fields.

[1] See Appendices Nos. ii. and ix. at end of this volume.

If the Indian races will only learn to migrate to tracts where spare land still abounds, they will do more than the utmost efforts of Government can accomplish to better themselves and to prevent famines. The Census of 1872 showed, indeed, that the Indian peasant had lost something of his old immobility. The general tendency of the population in Bengal is southwards and eastwards to the newly formed delta, and north-eastwards to the thinly peopled valleys of Assam. But the clinging of the people to their old villages in spite of hardship and famine still forms a most difficult problem in India. Throughout many of the hill and border tracts, land is so plentiful that it yields no rent. Any one may settle on a patch which he clears of jungle, exhaust the soil by a rapid succession of crops, and then leave it to relapse into forest. In such tracts no rent is charged; but each family of wandering husbandmen pays a poll-tax to the chief, or to the Government under whose protection it dwells. As the inhabitants increase, this nomadic system of cultivation gives place to regular tillage. Throughout British Burma we see both methods at work side by side; while on the thickly peopled plains of India the 'wandering husbandmen' have long since disappeared, and each household remains rooted to the same plot of ground during many generations.

The nomadic system of husbandry.

Labour and land in the last century;

In some parts of India, this change in the relation of the people to the land has taken place before our own eyes. Thus, in Bengal there was in the last century more cultivable land than there were husbandmen to till it. A hundred years of British rule has reversed this state of things, and there are now more people than there is land for them to till. This change has produced a silent revolution in the rural economy of the Province. When the English obtained Bengal in the last century, they found in many Districts two distinct rates of rent current for the same classes of soil. The higher rate was paid by the *tháni ráyats*, literally 'stationary' tenants, who had their houses in the hamlet, and formed the permanent body of cultivators. These tenants would bear a great deal of extortion rather than forsake the lands on which they had expended labour and capital in digging tanks, cutting irrigation channels, and building homesteads. They were oppressed accordingly; and while they had a right of occupation in their holdings, so long as they paid the rent, the very highest rates were squeezed out of them. The temporary or wandering cultivators, *paikhást ráyats*, were those who had not their homes in the village, and who could therefore leave it whenever they pleased. They

had no right of occupancy in their fields; but on the other hand, the landlord could not obtain so high a rent from them, as there was plenty of spare land in adjoining villages to which they could retire in case of oppression. The landlords were at that time competing for tenants; and one of the commonest complaints which they brought before the Company's officials was a charge against a neighbouring proprietor of 'enticing away their cultivators' by low rates of rent. This state of things is now reversed. The landlords have no longer to compete for tenants. It is the husbandmen who have to compete with one another for land. There are still two rates of rent. But the lower rates are now paid by the 'stationary' tenants, who possess occupancy rights; while the higher or rack-rents are paid by the other class, who do not possess occupancy rights. In ancient India, the eponymous hero, or original village founder, was the man who cut down the jungle. In modern India, special legislation and a Forest Department are required to preserve the trees which remain.

and at the present day.

Serfdom in India.

It will be readily understood that in a country where almost down to the present times there was more land than there were people to till it, a high value was set upon the cultivating class. In tracts where the nomadic system of husbandry survives, no family is permitted by the native chief to quit his territory. For each household represents a poll-tax. In many parts of India, we found the lower classes attached to the soil in a manner which could scarcely be distinguished from predial slavery. In spite of our legislative enactments, this system lingered on. Our early officers in South-Eastern Bengal, and the great island of Sandwíp adjoining, almost raised a rebellion by their attempts to liberate the slaves. Indeed, in certain tracts where we found the population very depressed, as in Behar, the courts have in our own day occasionally brought to light the survival of serfdom.

A feeling, like the old native one, exists in the minds of some British officers against migration of the people from their Districts. If we except the newly annexed Provinces of Burma and Assam, the population of British India is three times more dense to the square mile than the population of Feudatory India. This great disproportion cannot be altogether explained by differences in the natural capabilities of the soil. It would be for the advantage of the people that they should spread themselves over the whole country, and so equalize the pressure throughout. The Feudatory States lie interspersed among British territory, and no costly migration by

sea is involved. That the people do not thus spread themselves out, but crowd together within our Provinces, is partly due to their belief that, on the whole, they are less liable to oppression under British rule than under native chiefs. But any outward movement of the population, even from the most densely peopled English Districts, would probably be regarded with pain by the local officers. Indeed, the occasional exodus of a few cultivators from the overcrowded Province of Behar into the thinly peopled frontier State of Nepál, has been a subject of sensitive self-reproach. In proportion as we can enforce good government under the native chiefs of India, we must expect to see a gradual movement of the people into the Feudatory States. There is plenty of land in India for the whole population. What is required is not the diminution of the people, but their more equal distribution.

Unequal pressure of the population on the land.

THE ETHNICAL HISTORY OF INDIA.—The statistical elucidation of the races and Provinces of India can only be effected by tabular forms. I therefore append at the end of this volume a series of statements dealing with the various aspects of the Indian population,[1] and proceed here to briefly sketch the history of the ethnological elements of which it is made up.

Ethnology.

European writers formerly divided the Indian population into two races—the Hindus and the Muhammadans. But when we look more closely at the people, we find that they consist of four well-marked elements. These are, first, the recognised Non-Aryan Tribes, sometimes called the Aborigines, and their half-Hinduized descendants, numbering 18 millions; second, the comparatively pure offspring of the Aryan or Sanskrit-speaking

Four-fold division of the People.

(1) Non-Aryans.

(2) Aryans.

[1] Viz.—Table I. Area, villages, houses, and population in each Province of British India.
,, II. Distribution into town and country, or 'towns and villages in British India.'
,, III. Cultivable and uncultivable land in Provinces for which returns exist.
,, IV. Population of British India according to age and sex.
,, V. Population of British India according to caste and nationality.
,, VI. Asiatic non-Indian population of British India according to nationality.
,, VII. Non-Asiatic population of British India according to nationality.
,, VIII. Population of British India according to religion.
,, IX. Town population of India, being a list of the 139 towns of British India of which the population exceeds 20,000.

(3) Mixed Hindus.

Race (the Bráhmans and Rájputs), about 16 millions; third, the great Mixed Population, generally known as the Hindus, which has grown out of the Aryan and non-Aryan elements (chiefly from the latter), and now numbers 110 millions; fourth, the Muhammadans, 41 millions. These make up the 186 millions of people under British rule. The same four-fold division applies to the population of the 54 millions in Feudatory India, but we do not know the numbers of the different classes.

(4) Muhammadans.

Plan of this article in dealing with the Indian Races and their history.

In dealing with the population of India, I shall treat of each of these four classes separately; as the four distinct elements which make up the present population. Their history, as a loosely-connected whole, after they had been pounded together in the mortar of Muhammadan conquest, will next be traced. I shall then narrate the events by which the English nation became answerable for the welfare of this vast section of the human family. Finally, I shall show how the British Government is trying to discharge its solemn responsibility, and indicate the administrative mechanism which has knit together the discordant races of India into a great pacific Empire.

The two races of pre-historic India.

The Aryans.

Our earliest glimpses of India disclose two races struggling for the soil. The one was a fair-skinned people, which had lately entered by the north-western passes; a people of ARYAN, literally 'noble,' lineage, speaking a stately language, worshipping friendly and powerful gods. The other was a race of a lower type, who had long dwelt in the land, and whom the lordly new-comers drove back before them into the mountains, or reduced to servitude on the plains. The comparatively pure descendants of these two races are now nearly equal in numbers; the intermediate castes, sprung chiefly from the ruder stock, make up the mass of the present Indian population.

The NON-ARYANS or Aborigines.

The present section treats of the lower tribes, an obscure people, who, in the absence of a race-name of their own, may be called the non-Aryans or Aborigines. They have left no written records; indeed, the use of letters, or of any simplest hieroglyphics, was to them unknown. The sole works of their hands which have come down to us are rude stone circles, and the upright slabs and mounds, beneath which, like the primitive peoples of Europe, they buried their dead. From these we only discover that, at some far distant but unfixed period, they knew how to make round pots of hard, thin earthenware, not inelegant in shape; that they fought with iron weapons, and wore ornaments of copper and gold. Coins of Imperial

Kistvaen-builders.

Rome have been dug up from their graves. Still earlier remains, found in the upper soils of large areas, prove, indeed, that these ancient tomb-builders formed only one link in a chain of primeval races. Long before their advent, India was peopled as far as the depths of the Central Provinces, by tribes unacquainted with the metals, who hunted and warred with polished flint axes and other deftly wrought implements of stone, similar to those found in Northern Europe. And even these were the successors of yet ruder beings, who have left their agate knives and rough flint weapons in the Narbada valley. In front of this far-stretching background of the early-Metal and Stone Ages, we see the so-called Aborigines being beaten down by the newly arrived Aryan race.

Flint weapons.

The struggle is commemorated by the two names which the victors gave to the early tribes, namely, the Dasyus, or 'enemies,' and the Dásas, or 'slaves.' The last remains to this day the family name of multitudes of the lower class in Bengal. The new-comers from the north prided themselves on their fair complexion, and their Sanskrit word for 'colour' (*varna*) came to mean 'race' or 'caste.' Their earliest poets, at least 3000 and perhaps 4000 years ago, praised in the Rig-veda their bright gods, who, 'slaying the Dasyus, protected the *Aryan colour;*' who 'subjected the black-skin to the Aryan man.' They tell us of their 'stormy deities, who rush on like furious bulls and scatter the black-skin.' The sacrificer gave thanks to his god for 'dispersing the slave bands of black descent,' and for sweeping away 'the vile Dasyan colour.' Moreover, the Aryan, with his finely formed features, loathed the squat Mongolian faces of the Aborigines. One Vedic singer speaks of them as 'noseless' or flat-nosed, while another praises his own 'beautiful-nosed' gods. The same unsightly feature was commented on with regard to a non-Aryan Asiatic tribe, by the companions of Alexander the Great on his Indian expedition, at least a thousand years later. But, indeed, the Vedic hymns abound in scornful epithets for the primitive tribes, as 'disturbers of sacrifices,' 'gross feeders on flesh,' 'raw-eaters,' 'lawless,' 'not-sacrificing,' 'without gods,' and 'without rites.' As time went on, and these rude tribes were driven back into the forest, they were painted in still more hideous shapes, till they became the 'monsters' and 'demons' of the Aryan poet and priest. Their race-name Dasyu, 'enemy,' thus grew to signify a goblin or devil, as the old Teutonic word for enemy (still used in that sense in modern German) has become the English 'fiend.'

The Non-Aryans as described by the Aryans.

The 'Black-skin.'

Flat-nosed.

Raw-eaters.

The 'Demons' of the Aryan race.

More civilised non-Aryan tribes.

Nevertheless, all of them could not have been savages. We hear of wealthy Dasyus, and even the Vedic hymns speak much of their 'seven castles' and 'ninety forts.' In later Sanskrit literature, the Aryans make alliance with aboriginal princes; and when history at length dawns on the scene, we find some of the most powerful kingdoms of India ruled by dynasties of non-Aryan descent. Nor were they devoid of religious rites, or of cravings after a future life. 'They adorn,' says a very ancient Sanskrit treatise,[1] 'the bodies of their dead with gifts, with raiment, with ornaments; imagining that thereby they shall attain the world to come.' These ornaments are the bits of bronze, copper, and gold which we now dig up from beneath their rude stone monuments. In the Rámáyana, or Sanskrit epic which narrates the advance of the Aryans into Southern India, a non-Aryan chief describes his race as 'of fearful swiftness, unyielding in battle, in colour like a dark-blue cloud.'[2]

The non-Aryans as they are.

Let us now examine these primitive peoples, not as portrayed by their enemies 3000 years ago, but as they exist at the present day. Thrust back by the Aryans from the plains, they have lain hidden away in the recesses of the mountains, like the remains of extinct animals which palæontologists find in hill-caves. India thus forms a great museum of races, in which we can study man from his lowest to his highest stages of culture. The specimens are not fossils or dry bones, but living communities, to whose widely diverse conditions we have to adapt our administration and our laws.

The Andaman islanders.

Among the rudest fragments of mankind are the isolated Andaman islanders in the Bay of Bengal. The old Arab and European voyagers described them as dog-faced man-eaters. The English officers sent to the islands in 1855 to establish a Settlement, found themselves surrounded by quite naked cannibals of a ferocious type; who daubed themselves when festive with red earth, and mourned in a suit of olive-coloured mud. They used a noise like *crying* to express friendship or joy; bore only names of common gender, which they received before birth, and which therefore had to be applicable to either sex; and their sole conception of a god was an evil spirit, who spread disease. For five years they repulsed every effort at intercourse with showers of arrows; but our officers slowly brought them to a better frame of mind by building sheds near

[1] *Chandogya Upanishad*, viii. 8. 5, quoted in Muir's *Sanskrit Texts*, ii. 369 (ed. 1874).

[2] Rámáyana (ed. Gorresio), iii. 28. 18.

the Settlement, where these poor beings might find shelter from the tropical rains, and receive medicines and food.

The Anamalai Hills, in Southern Madras, form the refuge of a whole series of broken tribes. Five hamlets of long-haired, wild-looking Puliars live on jungle products, mice, or any small animals they can catch; and worship demons. Another clan, the Mundavers, shrink from contact with the outside world, and possess no fixed dwellings, but wander over the innermost hills with their cattle, sheltering themselves under little leaf sheds, and seldom remaining in one spot more than a year. The thick-lipped, small-bodied Kaders, 'Lords of the Hills,' are a remnant of a higher race. They file the front teeth of the upper jaw as a marriage ceremony, live by the chase, and wield some influence over the ruder forest-folk. These hills, now almost uninhabited, abound in the great stone monuments (kistvaens and dolmens) which the primitive tribes erected over their dead. The Nairs, or hillmen of South-Western India, still practise polyandry, according to which one woman is the wife of several husbands, and a man's property descends not to his own but to his sister's children. This system also appears among the Himálayan tribes at the opposite extremity of India.

Anamalai hillmen.

The Nairs.

In the Central Provinces, the aboriginal races form a large proportion of the population. In certain Districts, as in the Feudatory State of Bastár, they amount to three-fifths of the inhabitants. Their most important race, the Gonds, have made some advances in civilisation; but the wilder tribes still cling to the forest, and live by the chase. Some of them are reported to have used, within a few years back, flint points for their arrows. The Máriás wield bows of great strength, which they hold with their feet while they draw the string with both hands. A still wilder tribe, the Máris, fly from their grass-built huts on the approach of a stranger. Once a year a messenger comes to them from the local Rájá to take their tribute, which consists chiefly of jungle products. He does not, however, enter their hamlets, but beats a drum outside, and then hides himself. The shy Máris creep forth, place what they have to give in an appointed spot, and run back again into their retreats.

Non-Aryan tribes of the Central Provinces. The Gonds.

Tax-gathering among the Máris.

Farther to the north-east, in the Tributary States of Orissa, there is a poor tribe, 10,000 in number, of Juangs or Patuas, literally the 'leaf-wearers,' whose women wore no clothes. The Denkhánal chief had a party of them brought from the forest in 1870, to show me their national dance. The only vestige

The Juangs or 'Leaf-wearers' of Orissa Hill States;

of covering on the females consisted of a few strings of beads round the waist, with a bunch of leaves tied before and behind. Those under British influence have since been clothed by order of the Government, and their native chief was persuaded to do the same work for others. In 1871, the English officer called together the clan, and after a speech, handed out strips of cotton for the women to put on. They then passed in single file, to the number of 1900, before him, made obeisance to him, and were afterwards marked on the forehead with vermilion, as a sign of their entering into civilised society. Finally, they gathered the bunches of leaves which had formed their sole clothing into a great heap, and solemnly set fire to it.

Clothed by Government.

A relic of the Stone Age.

This leaf-wearing tribe had no knowledge of the metals till quite lately, when foreigners came among them, and no word existed in their native language for iron or any other metal. But their country abounds in flint weapons, so that the Juangs form a remnant to our own day of the Stone Age. 'Their huts,' writes the officer who knows them best, 'are among the smallest that human beings ever deliberately constructed as dwellings. They measure about 6 feet by 8. The head of the family and all the females huddle together in this one shell, not much larger than a dog-kennel.' The boys and the young men of the village live in one large building apart by themselves; and this custom of having a common abode for the whole male youth of the hamlet is found among many aboriginal tribes in distant parts of India.

Juang dwellings.

Himálayan tribes.

Proceeding to the northern boundary of India, we find the slopes and spurs of the Himálayas peopled by a great variety of rude tribes. Some of the Assam hillmen have no word for expressing distance by miles nor any land-measure, but reckon the length of a journey by the number of plugs of tobacco or *pán* which they chew upon the way. As a rule, they are fierce, black, undersized, and ill-fed. They eked out a wretched subsistence by plundering the more civilised hamlets of the Assam valley; a means of livelihood which they are but slowly giving up under British rule. Some of the wildest of them, such as the independent Abars, are now engaged as a sort of irregular police, to keep the peace of the border, in return for a yearly gift of cloth, hoes, and grain. Their very names bear witness to their former wild life. One tribe, the Akas of Assam, is divided into two clans, known respectively as 'The eaters of a thousand hearths,' and 'The thieves who lurk in the cotton-field.'

Akas of Assam.

More advanced non-Aryan tribes.

Many of the aboriginal tribes, therefore, remain in the same early stage of human progress as that ascribed to them by the Vedic poets more than 3000 years ago. But others have made great advances, and form communities of a well-developed type. These higher races, like the ruder ones, are scattered over the length and breadth of India, and I must confine myself to a very brief description of two of them. The Santáls and the Kandhs inhabit the north-eastern edge of the great central plateau. The Santáls have their home among the hills which abut on the valley of the Ganges in Lower Bengal. The Kandhs live about 200 miles to the south, on the spurs and ridges which look down upon the Orissa delta and Madras coast.

The Santáls.

The Santáls dwell in villages in the jungles or among the mountains, apart from the people of the plains. They number about a million, and give their name to a large District, the SANTAL PARGANAS, 140 miles north-west of Calcutta. Although still clinging to many customs of a hunting forest tribe, they have learned the use of the plough, and settled down into skilful husbandmen. Each hamlet is governed by its own head-man, who is supposed to be a descendant of the original founder of the village, and who is assisted by a deputy head-man and a watchman. The boys of the hamlet have their separate officers, and are strictly controlled by their own head and his deputy till they enter the married state. The Santáls know not the cruel distinctions of Hindu caste, but trace their tribes, usually fixed at seven, to the seven sons of the first parents. The whole village feasts, hunts, and worships together; and the Santál must take his wife, not from his own tribe, but from one of the six others. So strong is the bond of race, that expulsion from the tribe was the only Santál punishment. A heinous criminal was cut off from 'fire and water' in the village, and sent forth alone into the jungle. Minor offences were forgiven upon a public reconciliation with the tribe; to effect which the guilty one had to provide a feast, with much rice-beer, for his clansmen.

Santál village government.

No castes, but strong tribal feeling.

The six Santál ceremonies.

The chief ceremonies in a Santál's life, six in number, vary in different parts of the country, but all bear upon this strong feeling of kinship. The first is the admission of the newly-born child into the family,—a secret rite, one act of which consists in the father placing his hand on the infant's head and repeating the name of the ancestral deity. The second, the admission of the child into the tribe, is celebrated three or five days after birth,—a more public ceremony, at which the child's

head is shaved, and the clansmen drink beer. The third ceremony, or admission into the race, takes place about the fifth year; when all friends, whatever may be their tribe, are invited to a feast, and the child is marked on his right arm with the Santál spots. The fourth consists of the union of his own tribe with another by marriage, which does not take place till the young people can choose for themselves. At the end of the ceremony the girl's clanswomen pound burning charcoal with the household pestle, in token of the breaking up of her former family ties, and then extinguish it with water, to signify the separation of the bride from her clan. The Santáls respect their women, and seldom or never take a second wife, except for the purpose of obtaining an heir. The fifth ceremony consists of the dismissal of the Santál from the race, by the solemn burning of his body after death. The sixth is the reunion of the dead with the fathers, by floating three fragments of the skull down the Dámodar river (if possible), the sacred stream of the race.

Santál marriages.

Santál religion.

The Santál has no conception of bright and friendly gods, such as the Vedic singers worshipped. Still less can he imagine one omnipotent and beneficent Deity, who watches over mankind. Hunted and driven back before the Hindus and Muhammadans, he does not understand how a Being can be more powerful than himself without wishing to harm him. 'What,' said a Santál to an eloquent missionary, who had been discoursing on the Christian God—'what if that strong One should eat me?' Nevertheless, the earth swarms with spirits and demons, whose ill-will he tries to avert. His religion consists of nature-worship, and offerings to the ghosts of his ancestors; and his rites are more numerous even than those of the Hindus. First, the Race-god; next, the Tribe-god of each of the seven clans; then the Family-god, requires in turn his oblation. But besides these, there are the spirits of his forefathers, river-spirits, forest-spirits, well-demons, mountain-demons, and a mighty host of unseen beings, whom he must keep in good humour. He seems also to have borrowed from the Hindus some rites of sun-worship. But his own gods dwell chiefly in the ancient *sál* trees which shade his hamlets. Them he propitiates by offerings of blood; with goats, cocks, and chickens. If the sacrificer cannot afford an animal, it is with a red flower, or a red fruit, that he draws near to his gods. In some hamlets, the people dance round every tree, so that they may not by evil chance miss the one in which the village-spirits happen to be dwelling.

Race-god; Tribe-god; Family-god; Demons.

Until nearly the end of the last century, the Santáls were the pests of the neighbouring plains. Regularly after the December harvest, they sallied forth from their mountains, plundered the lowlands, levied black-mail, and then retired with their spoil to their jungles. But in 1789, the British Government granted the proprietary right in the soil to the landholders of Bengal under the arrangements which four years later became the Permanent Settlement. Forthwith every landholder tried to increase the cultivated area on his estate, now become his own property. The Santáls and other wild tribes were tempted to issue from their fastnesses by high wages or rent-free farms. 'Every proprietor,' said a London newspaper, the *Morning Chronicle*, in 1792, 'is collecting husbandmen from the hills to improve his lowlands.' The English officers found they had a new race to deal with, and gradually won them to peaceful habits by grants of land and 'exemption from all taxes.' They were allowed to settle disputes 'among themselves by their own customs,' and they were used as a sort of frontier police, being paid to deliver up any of their own people who committed violent crimes. Such criminals, after being found guilty by their countrymen, were handed over for punishment to the English judge. The Santáls gained confidence in us by degrees, and came down in great numbers within the fence of stone pillars, which the British officers set up in 1832 to mark off the country of the hill people from the plains.

The Santáls under British rule.

They come forth from the hills.

The Hindu money-lender soon made his appearance in their settlements, and the simple hill-men learned the new luxury of borrowing. Our laws were gradually applied to them, and before the middle of this century most of the Santál hamlets were plunged in debt. Their strong love of kindred prevented them from running away, and the Hindu usurers reduced them to a state of practical slavery, by threatening the terrors of a distant jail. In 1848, three whole villages threw up their clearings, and fled in despair to the jungle. On the 30th of June 1855, the southern Santáls started in a vast body, 30,000 strong, with their bows and arrows, to walk to Calcutta and lay their condition before the Governor-General. At first they were orderly; but the way was long, and they had to live. Robberies took place; quarrels broke out between them and the police; and within a week they were in armed rebellion. The rising was put down, not without mournful bloodshed; and their wrongs were carefully inquired into. A very simple form of administration was introduced, according to which

The Santáls sink into debt to the Hindus.

Santál rising, 1855.

their village head-men were brought into direct contact with the English officer in charge of the District, and acted as the representatives of the people. Our system of justice and government has been adapted to their primitive needs, and the Santáls have for years been among the most prosperous of the Indian races.[1]

The Kandhs or Kondhs.

The Kandhs, literally 'The Mountaineers,' a tribe about 100,000 strong, inhabit the steep and forest-covered ranges which rise from the Orissa coast. They form one of a group of non-Aryan races who still occupy the positions assigned to them by the Greek geographers, 1500 years ago. Before that early date, they had been pushed backwards by the advancing Aryans from the fertile delta which lies between the mountains and the sea. One section of the Kandhs was completely broken up, and has sunk into landless low castes among the Aryan or Hindu communities at the foot of the hills. Another section stood its ground more firmly, and became a peasant militia, holding grants of land from the Hindu chiefs in return for military service. A third section fell back into the fastnesses of the mountains, and was recognised as a wild but free race. It is of this last section that I now treat.

Breaking up of the race.

Kandh patriarchal government.

The Kandh idea of government is purely patriarchal. The family is strictly ruled by the father. The grown-up sons have no property during his life, but live in his house with their wives and children, and all share the common meal prepared by the grandmother. The clan consists of a number of families, sprung from a common father; and the tribe is made up in like manner from a number of clans who claim descent from the same ancestor. The head of the tribe is usually the eldest son of the patriarchal family; but if he be not fit for the post he is set aside, and an uncle or a younger brother appointed. He enters on no undertaking without calling together the heads of clans, who in their turn consult the heads of families.

Kandh wars and punishments.

Blood-revenge.

According to the Kandh theory of existence, a state of war might lawfully be presumed against all neighbours with whom no express agreement had been made to the contrary. Murders were punished by blood-revenge, the kinsmen within a certain degree being one and all bound to kill the slayer,

[1] While these sheets were passing through the press, an agitation took place among the Santáls, through fear of a poll-tax, suggested by the preparations for the Census of 1881. The panic soon passed off. In the last generation it would have meant the devastation of the adjacent lowlands.

unless appeased by a payment of grain or cattle. The man who wounded another had to maintain the sufferer until he recovered from his hurt. A stolen article must be returned, or its equivalent paid; but the Kandh twice convicted of theft was driven forth from his tribe, the greatest punishment known to the race. Disputes were settled by combat, or by the ordeal of boiling oil or heated iron, or by taking a solemn oath on an ant-hill, or on a tiger's claw, or a lizard's skin. When a house-father died, leaving no sons, his land was parcelled out among the other male heads of the village; for no woman, nor indeed any Kandh, was allowed to hold land who could not with his own hand defend it.

Kandh agriculture.

The Kandh system of tillage represents a stage half-way between the migratory cultivation of the ruder non-Aryan tribes and the settled agriculture of the Hindus. They do not, on the one hand, merely burn down a patch in the jungle, take a few crops off it, and then move on to fresh clearings. Nor, on the other hand, do they go on cultivating the same fields from father to son. When their lands show signs of exhaustion, they desert them; and it was a rule in some of their settlements to change their village sites once in fourteen years. Caste is unknown; and, as among the Santáls, marriage between relations, or even within the same tribe, is forbidden. A Kandh wedding consists of forcibly carrying off the bride in the middle of a feast. The boy's father pays a price for the girl, and usually chooses a strong one, several years older than his son. In this way, Kandh maidens are married about fourteen, Kandh boys about ten. The bride remains as a servant in her new father-in-law's house till her boy-husband grows old enough to live with her. She generally acquires a great influence over him; and a Kandh may not marry a second wife during the life of his first one, except with her consent.

Kandh marriages by 'Capture.'

Serfs of the Kandh village.

The Kandh engages only in husbandry and war, and despises all other work. But attached to each village is a row of hovels inhabited by a lower race, who are not allowed to hold land, to go forth to battle, or to join in the village worship. These poor people do the dirty work of the hamlet, and supply families of hereditary weavers, blacksmiths, potters, herdsmen, and distillers. They are kindly treated, and a portion of each feast is left for them. But they never rise in the social scale. No Kandh could engage in their work without degradation, nor can he eat food prepared by their hands They can give no account of their origin, but are supposed to

be the remnants of a ruder race whom the Kandhs found in possession of the hills when they themselves were pushed backwards by the Aryans from the plains.

Kandh human sacrifices.

The Kandhs, like the Santáls, have many deities, race-gods, tribe-gods, family-gods, and a multitude of malignant spirits and demons. But their great divinity is the earth-god, who represents the productive energy of nature. Twice each year, at sowing-time and at harvest, and in all seasons of special calamity, the earth-god required a human sacrifice. The duty of providing the victims rested with the lower race attached to the Kandh village. Brahmáns and Kandhs were the only classes exempted from sacrifice, and an ancient rule ordained that the offering *must be bought with a price.* Men of the lower race kidnapped the victims from the plains, and a thriving Kandh village usually kept a small stock in reserve, 'to meet sudden demands for atonement.' The victim, on being brought to the hamlet, was welcomed at every threshold, daintily fed, and kindly treated till the fatal day arrived. He was then solemnly sacrificed to the earth-god, the Kandhs shouting in his dying ear, 'We bought you with a price; no sin rests with us!' His flesh and blood were distributed among the village lands.

The victims.

The sacrifice.

The Kandhs under British rule.

In 1835, the Kandhs passed under our rule, and these rites had to cease. Their proud spirit shrunk from compulsion; but after many tribal councils, they agreed to give up their stock of victims as a valuable present to their new suzerain. Care was taken that they should not procure fresh ones. The kidnapping of victims for human sacrifice was declared a capital offence; and their priests were led to discover that goats or buffaloes did quite as well for the earth-god under British rule as human sacrifices. Hitherto they had consisted of separate tribes, always at war with each other and with the world. Under able English administrators (especially Campbell, Macpherson, and Cadenhead), human sacrifices were abolished, and the Kandhs were formed into a united and peaceful race (1837-45). The British officer removed their old necessity for tribal wars and family blood-feuds by setting himself up as a central authority. He adjusted their inter-tribal disputes, and punished heinous crimes. Samuel Charters Macpherson, in particular, won over the more troublesome clans to quiet industry, by grants of jungle tracts, of little use to us, but a paradise to them, and where he could keep them well under his eye. He made the chiefs vain of carrying out his orders by small presents of cattle, honorific dresses, and titles. He

Human sacrifices abolished.

The race won over to peaceful industry.

enlisted the whole race on his side by picking out their best men for the police; and drew the tribes into amicable relations among themselves by means of hill-fairs. He constructed roads, and taught them to trade, with a view to 'drawing them from their fastnesses into friendly contact with other men.' The race has prospered and multiplied under British rule.

Origin of the non-Aryan tribes.

Whence came these primitive peoples, whom the Aryan invaders found in the land more than 3000 years ago, and who are still scattered over India, the fragments of a pre-historic world? Written annals they do not possess. Their oral traditions tell us little; but such hints as they yield, feebly point to the north. They seem to preserve dim memories of a time when their tribes dwelt under the shadow of mightier hill ranges than any to be found on the south of the river plains of Bengal. 'The Great Mountain' is the race-god of the Santáls, and an object of worship among other tribes. Indeed, the Gonds, who now number 1½ million in the heart of Central India, have a legend that they were created at the foot of Dewálagiri peak in the Himálayas. Till lately, they buried their dead with the feet turned northwards, so as to be ready to start again for their ancient home in the north.

Non-Aryan traditions.

Non-Aryan speech.

But the language of the non-Aryan races, that record of a nation's past more enduring than rock-inscriptions or tables of brass, is being slowly made to tell the secret of their origin. It already indicates that the early peoples of India belonged to three great stocks, known as the Tibeto-Burman, the Kolarian, and the Dravidian.

The three non-Aryan stocks.

The first stock, or Tibeto-Burman tribes, cling to the skirts of the Himálayas and their north-eastern offshoots. They crossed over into India by the north-eastern passes, and in some pre-historic time had dwelt in Central Asia, side by side with the forefathers of the Mongolians and the Chinese. Several of the hill languages in Eastern Bengal preserve Chinese terms, others contain Mongolian. Thus, the Nágás in Assam still use words for *three* and *water* which might almost be understood in the streets of Canton.[1]

(1) The Tibeto-Burmans.

[1] The following are the twenty principal dialects of the Tibeto-Burman group:—(1) Cáchárí or Bodo, (2) Gáro, (3) Tipura or Mrung, (4) Tibetan or Bhutiá, (5) Gurung, (6) Murmi, (7) Newar, (8) Lepchá, (9) Miri, (10) Aka, (11) Mishmi dialects, (12) Dhimal, (13) Kanáwari dialects, (14) Míkír, (15) Singpho, (16) Nágá dialects, (17) Kuki dialects, (18) Burmese, (19) Khyeng, and (20) Manipuri. 'It is impossible,' writes Mr. Brandreth, 'to give even an approximate number of the speakers included in this group, as many of the languages are either across the frontier or only project a short distance into our own territory. The

(2) The Kolarians.

The Kolarians, the second of the three non-Aryan stocks, seem also to have entered Bengal by the north-eastern passes. They dwell chiefly in the north, and along the north-eastern edge, of the three-sided tableland which covers the southern half of India. Some of the Dravidians, or third stock, appear, on the other hand, to have found their way into the Punjab by the north-western passes. They now inhabit the southern part of the three-sided tableland, as far down as Cape Comorin, the southernmost point of India. It appears as if the two streams, namely the Kolarian tribes from the north-east and the Dravidians from the north-west, had converged and crossed each other in Central India. The Dravidians proved the stronger, broke up the Kolarians, and thrust aside their fragments to east and west. The Dravidians then rushed forward in a mighty body to the south.

(3) The Dravidians.

Their convergence in Central India.

The Kolarians broken up.

It thus happened that while the Dravidians formed a vast mass in Southern India, the Kolarians survived only as isolated tribes, scattered so far apart as to soon forget their common origin. We have seen one of the largest of the Kolarian races, the Santáls, dwelling on the extreme eastern edge of the three-sided tableland, where it slopes down into the Gangetic valley. The Kurkus, a broken Kolarian tribe, inhabit a

languages included in this group have not, with perhaps one or two exceptions, both a cerebral and dental row of consonants, like the South-Indian languages; some of them have aspirated forms of the surds, but not of the sonants; others have aspirated forms of both. All the twenty dialects have words in common, especially numerals and pronouns, and also some resemblances of grammar. In comparing the resembling words, the differences between them consist often less in any modification of the root-syllable than in various additions to the root. Thus in Burmese we have *na*, "ear;" Tibetan, *rna-ba;* Magar, *na-kep;* Newar, *nai-pong;* Dhimal, *na-hathong;* Kiranti dialects, *na-pro*, *na-rék*, *na-phak;* Nágá languages, *te-na-ro*, *te-na-rang;* Manipuri, *na-kong;* Kupui, *ka-na;* Sak, *aka-na;* Karen, *na-khu;* and so on. It can hardly be doubted that such additions as these to monosyllabic roots are principally determinative syllables for the purpose of distinguishing between what would otherwise have been monosyllabic words having the same sound. These determinatives are generally affixed in the languages of Nepál and in the Dhimal language; prefixed in the Lepchá language, and in the languages of Assam, of Manipur, and of the Chittagong and Arakan Hills. Words are also distinguished by difference of tone. The tones are generally of two kinds, described as the abrupt or short, and the pausing or heavy. It has been remarked that those languages which are most given to adding other syllables to the root make the least use of the tones, and, *vice versa*, where the tones most prevail the least recourse is had to determinative syllables.'—This and the following quotations, from Mr. E. L. Brandreth, are condensed from his valuable paper in the *Journal of the Royal Asiatic Society*, New Series, vol. x. (1877), pp. 1-32.

patch of country about 400 miles to the west. They have for perhaps thousands of years been cut off from the Santáls by mountains and pathless forests, and by intervening races of the Dravidian and Aryan stocks. The Kurkus and Santáls have no tradition of a common origin; yet at this day the Kurkus speak a language which is little else than a dialect of Santáli. The Savars, once a great Kolarian tribe, mentioned by Pliny and Ptolemy, are now a poor wandering race of woodcutters in Northern Madras and Orissa. Yet fragments of them have lately been found deep in Central India, and as far west as Rájputána on the other side. The Juangs are an isolated non-Aryan remnant among an Aryan and Uriya-speaking population. They have forgotten, and disclaim, any connection with the Hos or other Kolarian tribes. Nevertheless, their common origin is attested by a number of Kolarian words which they have unconsciously preserved in their common speech.[1]

Scattered Kolarian fragments.

[1] The nine principal languages of the Kolarian group are—(1) the Santál, (2) Mundári, (3) Ho, (4) Bhumij, (5) Korwa, (6) Kharria, (7) Juang, (8) Kurku, and perhaps (9) the Savar. Some of them, however, are separated only by dialectical differences. 'The Kolarian group of languages,' writes Mr. Brandreth, 'has both the cerebral and dental row of letters, and also aspirated forms, which last, according to Caldwell, did not belong to early Dravidian. There is also a set of four sounds, which are perhaps peculiar to Santáli, called by Skrefsrud semi-consonants, and which, when followed by a vowel, are changed respectively into *g*, *j*, *d*, and *b*. Gender of nouns is animate and inanimate, and is distinguished by difference of pronouns, by difference of suffix of a qualifying noun in the genitive relation, and by the gender being denoted by the verb. As instances of the genitive suffix, we have in Santáli *in-ren hopon* "my son," but *in-ak orak* "my house." There is no distinction of sex in the pronouns, but of the animate and inanimate gender. The dialects generally agree in using a short form of the third personal pronoun suffixed to denote the number, dual and plural, of the noun, and short forms of all the personal pronouns are added to the verb in certain positions to express both number and person, both as regards the subject and object, if of the animate gender; the inanimate gender being indicated by the omission of these suffixes. No other group of languages, apparently, has such a logical classification of its nouns as that shown by the genders of both the South Indian groups. The genitive in the Kolarian group of the full personal pronouns is used for the possessive pronoun, which again takes all the post-positions, the genitive relation being thus indicated by the genitive suffix twice repeated. The Kolarian languages generally express grammatical relations by suffixes, and add the post-positions directly to the root, without the intervention of an oblique form or genitive or other suffix. They agree with the Dravidian in having inclusive and exclusive forms for the plural of the first personal pronoun, in using a relative participle instead of a relative pronoun, in the position of the governing word, and in the possession of a true causal form of the verb. They have a dual, which the Dravidians have not, but

The compact Dravidians of Southern India.

The compact Dravidians in the south, although in after-days subdued by the higher civilisation of the Aryan race which pressed in among them, were never thus broken into fragments.[1] Their pure descendants consist, indeed, of small and scattered tribes; but they have given their languages to 46 millions of people in Southern India. A theory has been started that some of the islands in the distant Pacific Ocean were peopled either from the Dravidian settlements in India, or from an earlier common source. Bishop Caldwell points out that the aboriginal tribes in Southern and Western Australia use almost the same words for *I*, *thou*, *he*, *we*, *you*, etc., as the Dravidian fishermen on the Madras coast; and resemble in other ways the Madras hill tribes, as in the use of their national weapon the boomerang.

Their offshoots beyond sea (?)

they have no negative voice. Counting is by twenties, instead of by tens, as in the Dravidian. The Santáli verb, according to Skrefsrud, has 23 tenses, and for every tense two forms of the participle and a gerund.'

[1] Bishop Caldwell recognises twelve distinct Dravidian languages:—(1) Támil, (2) Malayalam, (3) Telugu, (4) Kánarese, (5) Tulu, (6) Kudugu, (7) Toda, (8) Kota, (9) Gond, (10) Kandh, (11) Uráon, (12) Rájmahál. 'In the Dravidian group,' writes Mr. Brandreth, 'there is a rational and an irrational gender of the nouns, which is distinguished in the plural of the nouns, and sometimes in the singular also, by affixes which appear to be fragmentary pronouns, by corresponding pronouns, and by the agreement of the verb with the noun, the gender of the verb being expressed by the pronominal suffixes. To give an instance of verbal gender, we have in Támil, from the root *sey*, "to do," *seyd-an*, "he (rational) did;" *seyd-ál*, "she (rational) did;" *seyd-adu*, "it (irrational) did;" *seyd-ar*, "they (the rationals) did;" *seyd-a*, "they (the irrationals) did:" the full pronouns being *avan*, "he;" *aval*, "she;" *adu*, "it;" *avar*, "they;" *avei*, "they." This distinction of gender, though it exists in most of the Dravidian languages, is not always carried out to the extent that it is in Támil. In Telugu, Gond, and Kandh, it is preserved in the plural, but in the singular the feminine rational is merged in the irrational gender. In Gond, the gender is further marked by the noun in the genitive relation taking a different suffix, according to the number and gender of the noun on which it depends. In Uráon, the feminine rational is entirely merged in the irrational gender, with the exception of the pronoun, which preserves the distinction between rationals and irrationals in the plural; thus, *as*, "he," referring to a god or a man; *ad*, "she" or "it," referring to a woman or an irrational object; but *ar*, "they," applies to both men and women; *abra*, "they," to irrationals only. The rational gender, besides human beings, includes the celestial and infernal deities; and it is further subdivided, in some of the languages, but in the singular only, into masculine and feminine. The grammatical relations in the Dravidian are generally expressed by suffixes. Many nouns have an oblique form, which is a remarkable characteristic of the Dravidian group; still, with the majority of nouns, the post-positions are added directly to the nominative form. Other features of this group are—the frequent use of formatives to specialize

List of non-Aryan languages.

The following is a list of 142 of the principal non-Aryan languages and dialects, which Mr. Brandreth prepared for the Royal Asiatic Society in 1877, classified according to their grammatical structure. Mr. Robert Cust has also arranged them in a very convenient form, according to their geographical habitat. I regret that space precludes me from giving both schemes :—

TABLE OF THE NON-ARYAN LANGUAGES OF INDIA.[1]

DRAVIDIAN GROUP.

Támil.
Malayálam.
Telugu.
{ Kánarese.
{ Badaga.
Tulu.
Kudagu or Coorg.
Toda.
Kota.
Gond dialects.
{ *Mahádeo.*
{ *Ráj.*
{ *Maria.*
Kandh or Ku.
Uráon or Dhangar.
Rájmahálí or Máler.
Miscellaneous Dialects.
{ *Naikude.*
{ *Kolami.*
Keikádi.
Yerukala.
Gadaba (Kolarian ?).

KOLARIAN GROUP.

Santáli.
{ Mundári.
{ Ho or Larka Kol.
{ Bhumij.
Korwa.
Kharria.
Juang.
{ Kuri.
{ Kurku.
Mehto.
Savara.

TIBETO-BURMAN GROUP.

{ Káchári or Bodo.
{ Mech.
{ Hojai.
Gáro.
Páni-Koch.
Deori-Chutia.
Tipura or Mrung.

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the meaning of the root ; the absence of relative pronouns and the use instead of a relative participle, which is usually formed from the ordinary participle by the same suffix as that which Dr. Caldwell considers as the oldest sign of the genitive relation ; the adjective preceding the substantive ; of two substantives, the determining preceding the determined ; and the verb being the last member of the sentence. There is no true dual in the Dravidian languages. In the Dravidian languages there are two forms of the plural of the pronoun of the first person, one including, the other excluding, the person addressed. As regards the verbs, there is a negative voice, but no passive voice, and there is a causal form.' Bishop Caldwell's second edition of his great work, the *Comparative Grammar of the Dravidian Languages* (Trübner, 1875), forms in itself an epoch in that department of human knowledge. Mr. Beames' *Comparative Grammar of the Modern Aryan Languages of India* (Trübner, 1872) has laid the foundation for the accurate study of North Indian speech. Colonel Dalton's *Ethnology of Bengal* (Calcutta, 1872), and Sir George Campbell's *Specimens of the Languages of India* (Bengal Secretariat Press, 1874), have also shed new and valuable light on the questions involved.

[1] Brackets refer to dialects that are very closely related ; † to languages beyond the circle of the Indian languages.

Tibeto-Burman Group—*continued.*

II. Tibetan or Bhutiá.
Sarpa.
Lhopa or Bhutáni.
Changlo.
Twang.
III. Gurung.
Murmi.
Tháksya.
Newar.
Pahri.
Magar.
IV. Lepchá.
V. Daphlá.
Miri.
Abar.
Bhutiá of Lo.
VI. Aka.
VII. Mishmi dialects.
Chulikata.
Taying or *Digaru.*
Mijhu.
VIII. Dhimal.
IX. Kanáwari dialects.
Milchan.
Tibarskad.
Sumchu.
X. Kiranti.
Limbu.
Sunwár.
Brámu.
Chepang.
Váyu.
Kusunda.
XI. Nágá dialects.
Namsang or *Jáipuria.*
Banpárá or *Joboka.*
Mithan.
Tablung.
Mulung.
XII. Nágá dialects.
Khari.
Naugáon.
Tengsa.
Lhota.
XIII. Nágá dialects.
Angámi.
Rengma.
Arung.
Kutcha.
Liyang or Kareng.
Marám.
XIV. Míkir.
XV. Singpho.
Jili.
XVI. Burmese.
XVII. Kuki dialects.
Thado.
Lushai.
Hallami.
Khyeng.
Manipuri.

Tibeto-Burman Group—*continued.*

Maring.
Khoibu.
Kupui.
Tangkhul.
Luhupa.
Khungui.
Phadang.
Champhung.
Kupome.
Takaimi.
Andro and Sengmai.
Chairel.
Anal and Namfau.
XVIII. Kumi.
Kami.
Mru.
Banjogi or Lungkhe.
Pankho.
Shendu or Poi.
Sak.
Kyau.
XIX. Karen dialects.
Sgau.
Bghai.
Red Karen.
Pwo.
Taru.
Mopgha.
Kay or *Gaikho.*
Toungthu.
†Lísaw.
†Gyarung.
†Takpa.
†Manyak.
†Thochu.
†Horpa.

KHASI.

Khási.

TAI.

Siamese or Thai.
Lao.
Shan.
Ahom.
Khamti.
Aiton.
†Tai Mow or Chinese Shan.

MON-ANAM.

Mon.
†Kambojan.
†Anamese.
†Paloung.

We discern, therefore, long before the dawn of history, masses of men moving uneasily over India, and violently pushing in among still earlier tribes. They crossed the snows of the Himálayas, and plunged into the tropical forests in search of new homes. Of these ancient races, fragments now exist almost in exactly the same stage of human progress as they were described by Vedic poets more than 3000 years ago. Some are dying out, such as the Andaman islanders, among whom only one family in 1869 had as many as three children. Others are increasing, like the Santáls, who have doubled themselves under British rule. But they all require special and anxious care in adapting our complex administration to their primitive condition and needs. Taken as a whole, and including certain half-Hinduized branches, they number 17,716,825, or say 18 millions, equal to three-quarters of the population of England and Wales. But while the bolder or more isolated of the Aboriginal races have thus kept themselves apart, by far the greater portion submitted in ancient times to the Aryan invaders, and now make up the mass of the Hindus.

Recapitulation—the non-Aryan races.

The following table shows the distribution of the aboriginal tribes throughout British India. But many live in Native States, not included in this enumeration; and the Madras Census of 1872 did not distinguish aborigines from low-caste Hindus. Their total number throughout all India probably exceeds 20 millions.

Distribution of aborigines in India.

Aboriginal Tribes and Semi-Hinduized Aborigines in 1872 :—

(Madras Presidency and the Feudatory States not included)

Bengal,	11,116,883	Mysore,	89,067
Assam,	1,490,888	Coorg,	42,516
North-West Provinces,	377,674	British Burma,	1,004,991
Oudh,	90,490	Bombay,	711,702
Punjab,	959,720		
Central Provinces,	1,669,835		17,716,825
Berar,	163,059		

In Bengal and Assam, the aboriginal races are divided into nearly 60 distinct tribes.[1] In the North-Western Provinces, 16 tribes of aborigines are enumerated in the Census of 1872. In the Central Provinces they number $1\frac{3}{4}$ million; the ancient race of Gonds, who ruled the central tableland before the rise of the Marhattás, alone amounting to $1\frac{1}{2}$ million. In British Burma, the Karengs, whose traditions have a singularly Jewish tinge, number 330,000. In Oudh, the nationality of

Their principal races.

[1] Among them may be noted the Santáls, 850,000 under direct British administration, total about a million; Kols, 300,000; Uráons or Dhangars, 200,000; and Mundas, 175,000—within British territory. In Assam—Cácháris, 200,000; Khásis, 95,000.

the aboriginal tribes has been buried beneath successive waves of Rájput and Muhammadan invaders. For example, the Bhars, formerly the monarchs of the centre and east of that Province, and the traditional fort-builders to whom all ruins are popularly assigned, were stamped out by Ibráhím Shárki of Jaunpur, in the 15th century. The Gaulis or ancient ruling race of the Central Provinces, the Ahams of Assam, and the Gonds, Chandels, and Bundelas of Bundelkhand,[1] are other instances of crushed races. In centres of the Aryan civilisation, the aboriginal peoples have been pounded down in the mortar of Hinduism, into the low-castes and out-castes on which the social fabric of India rests. A few of them, however, still preserve their ethnical identity as wandering tribes of jugglers, basket-weavers, and fortune-tellers. Thus, the Náts, Bediyas, and other gipsy clans are recognised to this day as distinct from the surrounding Hindu population.

Crushed tribes.

Gipsy clans.

Aboriginal criminal tribes on the plains.

The aboriginal races on the plains have supplied the hereditary criminal classes, alike under the Hindus, the Muhammadans, and the British. Formerly organized robber communities, they have, under the stricter police of our days, sunk into petty pilferers. But their existence is still recognised by the Criminal Tribes Act, passed so lately as 1871, and occasionally enforced within certain localities of Oudh and Northern India.

Predatory hill races.

The non-Aryan hill races, who appear from Vedic times downwards as marauders, have at length ceased to be a disturbing element in India. Many of them figure as predatory clans in Muhammadan and early British history. They sallied forth from their mountains at the end of the autumn harvest, pillaged and burned the lowland villages, and retired to their fastnesses laden with the booty of the plains. The measures by which these wild races have been reclaimed, form some of the most honourable episodes of Anglo-Indian rule. Cleveland's Hill-Rangers in the last century, and the Bhíls and Mhairs in more recent times, are well-known examples of how marauding races may be turned into peaceful cultivators and loyal soldiers. An equally salutary transformation has taken place in many a remote forest and hill tract of India. The firm order of British rule has rendered their old plundering life no longer a possible one, and at the same time has opened up to them new outlets for their energies.

Character of the non-Aryan tribes.

Their character differs in many respects from that of the tamer population of the plains. Their truthfulness, sturdy

[1] See for the origin of the Bundelas, Mr. J. Beames' *Races of the North-Western Provinces*, vol. i. p. 45, etc. (1869).

loyalty, and a certain joyous bravery, almost amounting to playfulness, appeal in a special manner to the English mind. There is scarcely a single administrator who has ruled over them for any length of time without finding his heart drawn to them, and leaving on record his belief in their capabilities for good. Lest the traditional tenderness of the Indian Civil Service should weaken the testimony of such witnesses, I shall quote only the words of soldiers with reference to the tribes with which each was specially acquainted:—

The non-Aryan hill tribes as soldiers.

'They are faithful, truthful, and attached to their superiors,' writes General Briggs; 'ready at all times to lay down their lives for those they serve, and remarkable for their indomitable courage. These qualities have always been displayed in our service. The aborigines of the Karnatic were the sepoys of Clive and of Coote. A few companies of the same stock joined the former great captain from Bombay, and helped to fight the battle of Plassey in Bengal, which laid the foundation of our Indian Empire. They have since distinguished themselves in the corps of pioneers and engineers, not only in India, but in Ava, in Afghánistán, and in the celebrated defence of Jalálábád. An unjust prejudice against them grew up in the native armies of Madras and Bombay, produced by the feelings of contempt for them existing among the Hindu and Muhammadan troops. They have no prejudices themselves; are always ready to serve abroad and embark on board ship; and I believe no instance of mutiny has ever occurred among them.' Since General Briggs wrote these sentences, the non-Aryan hill races have supplied some of the bravest and most valued of our Indian regiments, particularly the gallant little Gúrkhas.

Colonel Dixon on the Mhairs.

Colonel Dixon's report, published by the Court of Directors, portrays the character of the Mhair tribes with admirable minuteness. He dilates on their 'fidelity, truth, and honesty,' their determined valour, their simple loyalty, and an extreme and almost touching devotion when put upon their honour. Strong as is the bond of kindred among the Mhairs, he vouches for their fidelity in guarding even their own relatives as prisoners when formally entrusted to their care. For centuries they had been known only as exterminators; but beneath the considerate handling of one Englishman, who honestly set about understanding them, they became peaceful subjects and well-disciplined soldiers.

Outram's work among the Bhíls.

Sir James Outram, when a very young man, did the same good work for the Bhíls of KHANDESH. He made their chiefs

his hunting companions, formed the wilder spirits into a Bhíl battalion, and laid the basis for the reclamation of this formerly intractable race. (See also DANGS, *Imperial Gazetteer*, iii. 32.)

Fidelity of the hill races.

Every military man who has had anything to do with the aboriginal races acknowledges, that once they admit a claim on their allegiance, nothing tempts them to a treacherous or disloyal act. 'The fidelity to their acknowledged chief,' writes Captain Hunter, 'is very remarkable; and so strong is their attachment, that in no situation or condition, however desperate, can they be induced to betray him. If old and decrepit, they will convey him from place to place, to save him from his enemies.' Their obedience to recognised authority is absolute; and Colonel Tod relates how the wife of an absent chieftain procured for a British messenger safe-conduct and hospitality through the densest forests by giving him one of her husband's arrows as a token. The very officers who have had to act most sharply against them speak most strongly, and often not without a noble regret and self-reproach, in their favour. 'It was not war,' Major Vincent Jervis writes of the operations against the Santáls in 1855. 'They did not understand yielding; as long as their national drums beat, the whole party would stand, and allow themselves to be shot down. They were the most truthful set of men I ever met.'

Ethnical distribution of Indian races.

We have seen that India may be divided into three regions—the Himálayas on the north, the great River Plains that stretch southward from their foot, and the Three-sided Tableland which slopes upwards again from the River Plains, and covers the whole southern half of India. Two of these regions, the Himálayas on the north, and the Three-sided Tableland in the south, still form the retreats of the non-Aryan tribes. The third region, or the great River Plains, became in very ancient times the theatre on which a nobler race worked out its civilisation.

THE ARYAN STOCK.

This race belonged to the splendid ARYAN or Indo-Germanic stock, from which the Bráhman, the Rájput, and the Englishman alike descend. Its earliest home seems to have been in Central Asia. From that common camping-ground, certain branches of the race started for the east, others for the west. One of the western offshoots founded the Persian kingdom; another built Athens and Lacedæmon, and became the Greek nation; a third went on to Italy, and reared the City on the Seven Hills, which grew into Imperial Rome. A distant

Its European branches.

colony of the same race excavated the silver-ores of prehistoric Spain; and when we first catch a sight of ancient England, we see an Aryan settlement fishing in wattle canoes, and working the tin mines of Cornwall. Meanwhile, other branches of the Aryan stock had gone forth from the primitive home in Central Asia to the east. Powerful bands found their way through the passes of the Himálayas into the Punjab, and spread themselves, chiefly as Bráhmans and Rájputs, over India.

Its Eastern branches.

The Aryan offshoots to the east and to the west alike asserted their superiority over the earlier peoples whom they found in possession of the soil. The history of ancient Europe is the story of the Aryan settlements around the shores of the Mediterranean; and that wide term, modern civilisation, merely means the civilisation of the western branches of the same race. The history and development of India consist, in like manner, of the history and development of the eastern offshoots of the Aryan stock who settled in that land. In the west, the Aryan speech has supplied the modern languages of Europe, America, and England's island empires in the Southern Pacific. In the east, Hinduism and Buddhism, the two religions of the Indian branch of the Aryans, have become the faiths of more than one half of the whole human race, and spread Aryan thought and culture throughout Asia to the utmost limits of China and Japan.

The Aryans conquer the early races.

Spread their civilisation in Europe;

and in Asia.

We know little regarding these noble Aryan tribes in their early camping-ground in Central Asia. From words preserved in the languages of their long-separated descendants in Europe and India, scholars infer that they roamed over the grassy steppes with their cattle, making long halts to rear crops of grain. They had tamed most of the domestic animals; were acquainted with iron; understood the arts of weaving and sewing; wore clothes; and ate cooked food. They lived the hardy life of the temperate zone, and the feeling of cold seems to be one of the earliest common remembrances of the eastern and the western branches of the race. Ages afterwards, when the Vedic singers in hot India prayed for long life, they asked for 'a hundred *winters*.' The forefathers of the Greek and the Roman, of the Englishman and the Hindu, dwelt together in Asia, spoke the same tongue, worshipped the same gods. The languages of Europe and India, although at first sight they seem wide apart, are merely different growths from the original Aryan speech. This is especially true of the common words of family life. The names for *father*, *mother*, *brother*, *sister*, and *widow*, are the same in most of the Aryan lan-

The Aryans in their primitive home.

European and Indian languages merely varieties of Aryan speech.

guages, whether spoken on the banks of the Ganges, of the Tiber, or of the Thames. Thus the word *daughter*, which occurs in nearly all of them, has been derived from two Sanskrit roots meaning 'to draw milk;' and preserves the memory of the time when the daughter was the little milk-maid in the primitive Aryan household.

Common origin of European and Indian religions.

The ancient religions of Europe and India had a similar origin. They were to some extent made up of the sacred stories or myths which our common ancestors had learned while dwelling together in Central Asia. Several of the Vedic gods were also the gods of Greece and Rome; and to this day the Deity is adored by names derived from the same old Aryan root by Bráhmans in Calcutta, by the Protestant clergy of England, and by Catholic priests in Peru.

The Indo-Aryans on the march,

The Vedic hymns exhibit the Indian branch of the Aryans on their march to the south-east, and in their new homes. The earliest songs disclose the race still to the north of the Khaibar Pass, in Kábul; the later ones bring them as far as the Ganges. Their victorious advance eastwards through the intermediate tract can be traced in the Vedic writings almost step by step. One of their famous settlements lay between the two sacred rivers, the Saraswatí and the Drishadvatí, supposed to be the modern Sarsutí, near Thánesar, in the Punjab, and the Ghaggar, a day's march from it. This fertile strip of land, not more than 60 miles long by 20 broad, was fondly remembered by them as their Holy Land, 'fashioned of God, and chosen by the Creator.' As their numbers increased, they pushed eastwards along the base of the Himálayas, into what they afterwards called the Land of the Sacred Singers

and in their new settlements.

(*Brahmarshidesha*). Their settlements included by degrees the five rivers of the Punjab, together with the other great river-system formed by the upper courses of the Jumna and the Ganges. Here the Vedic hymns were composed; and the steady supply of water led the Aryans to settle down from their old state of wandering pastoral tribes into communities of husbandmen. The Vedic poets praised the rivers which enabled them to make this great change—perhaps the most important step in the progress of a race. 'May the Indus,' they sang, 'the far-famed giver of wealth, hear us; (fertilizing our) broad fields with water.' The Himálayas, through whose offshoots they had reached India, and at whose southern base they long dwelt, made a lasting impression on their memory. The Vedic singer praised 'Him whose greatness the snowy ranges, and the sea, and the aerial river declare.' In all its long

wanderings through India, the Aryan race never forgot its northern home. There dwelt its gods and holy singers; and their eloquence descended from heaven among men; while beyond the mountain-wall lay the paradise of deities and heroes, where the kind and the brave for ever repose.

Recollections of their northern home.

The Rig-Veda forms the great literary memorial of the early Aryan settlements in the Punjab. The age of this venerable hymnal is unknown. The Hindus believe, without evidence, that it existed 'from before all time,' or at least from 3001 years B.C., nearly 5000 years ago. European scholars have inferred from astronomical dates that its composition was going on about 1400 B.C. But these dates are themselves given in writings of modern origin, and might have been calculated backwards. We only know that the Vedic religion had been at work long before the rise of Buddhism in the 6th century B.C. Nevertheless, the antiquity of the Rig-Veda, although not to be expressed in figures, is abundantly established. The earlier hymns exhibit the Aryans on the north-western frontiers of India, just starting on their long journey. Before the embassy of the Greek Megasthenes, at the end of the 4th century B.C., they had spread at least to the verge of the Gangetic delta, 1500 miles distant. At the time of the Periplus, the southernmost point of India was apparently a seat of their worship. A temple to the wife of Siva stood on Cape Comorin, *circ.* 100 A.D. 'What a series of centuries must have elapsed,' writes Weber, 'before this boundless tract of country, inhabited by wild and vigorous tribes, could have been brought over to Bráhmanism!'

The Rig-Veda.

Insufficient evidence for its supposed dates, 3001 B.C. (?), 1400 B.C. (?)

Nevertheless of great antiquity.

The Bráhmans declare that the Vedic hymns were directly inspired by God. Indeed, in our own times, the young Theistic Church of Bengal, which rejects Bráhmanical teaching, was split into two sects on the question of the divine authority of the Veda. The Vedic hymns seem to have been composed by certain families of Rishis or psalmists, some of whose names are preserved. The Rig-Veda is a very old collection of 1017 of these short lyrical poems, chiefly addressed to the gods, and containing 10,580 verses. They show us the Aryans on the banks of the Indus, divided into various tribes, sometimes at war with each other, sometimes united against the 'black-skinned' aborigines. Caste, in its later sense, is unknown. Each father of a family is the priest of his own household. The chieftain acts as father and priest to the tribe; but at the greater festivals he chooses some one specially learned in holy offerings to conduct the sacrifice in the name of the

Inspiration of the Veda.

The Rig-Veda; 1017 hymns, 10,580 verses.

Caste not known to Rig-Veda,

people. The chief himself seems to have been elected; and his title of Vis-pati, literally 'Lord of the Settlers,' survives in the old Persian Vis-paiti, and as the Lithuanian Wiéz-patis in central Europe at this day. Women enjoyed a high position, and some of the most beautiful hymns were composed by ladies and queens. Marriage was held sacred. Husband and wife were both 'rulers of the house' (*dampatí*); and drew near to the gods together in prayer. The burning of widows on their husbands' funeral-pile was unknown; and the verses in the Veda which the Bráhmans afterwards distorted into a sanction for the practice, have the very opposite meaning. 'Rise, woman,' says the sacred text to the mourner; 'come to the world of life. Come to us. Thou hast fulfilled thy duties as a wife to thy husband.'

nor widow-burning.

Aryan civilisation in the Veda.

The Aryan tribes in the Veda are acquainted with most of the metals. They have blacksmiths, coppersmiths, and goldsmiths among them, besides carpenters, barbers, and other artisans. They fight from chariots, and freely use the horse, although not yet the elephant, in war. They have settled down as husbandmen, till their fields with the plough, and live in villages or towns. But they also cling to their old wandering life, with their herds and 'cattle-pens.' Cattle, indeed, still form their chief wealth—the coin (Latin, *pecunia*) in which payments or fines are made; and one of their words for war literally means 'a desire for cows.' They have learned to build 'ships,' perhaps large river-boats; and have seen or heard something of the sea. Unlike the modern Hindus, the Aryans of the Veda ate beef; used a fermented liquor or beer, made from the *soma* plant; and offered the same strong meat and drink to their gods. Thus the stout Aryans spread eastwards through Northern India; pushed on from behind by later arrivals of their own stock; and driving before them, or reducing to bondage, the earlier 'black-skinned' races. They marched in whole communities from one river-valley to another; each house-father a warrior, husbandman, and priest; with his wife, and his little ones, and cattle.

Spread of the Aryans eastwards.

The gods of the Veda.

These free-hearted tribes had a great trust in themselves and their gods. Like other conquering races, they believed that both themselves and their deities were altogether superior to the people of the land and their poor, rude objects of worship. Indeed, this noble self-confidence is a great aid to the success of a nation. Their divinities—*devas*, literally 'The Shining Ones,' from the Sanskrit root *div*, 'to shine'—were the great powers of nature. They adored the Father-heaven,

Dyaush-pitar in Sanskrit, the *Dies-piter* or *Jupiter* of Rome, the *Zeus* of Greece, the Low German *Duus*, and, through the old French god-demon, *Dus-ius*, probably the *Deuce* of English slang; together with Mother-Earth; and the Encompassing Sky, *Varuna* in Sanskrit, *Uranus* in Latin, *Ouranos* in Greek. 'Let me not yet, O Varuna, enter the house of clay' (the grave), says a Rig-Vedic hymn; 'have mercy, Almighty, have mercy. If I go along trembling, like a cloud driven by the wind; have mercy, Almighty, have mercy. Through want of strength, thou strong and bright god, have I gone wrong; have mercy, Almighty, have mercy.' Indra, or the Aqueous Vapour that brings the precious rain on which plenty or famine still depends each autumn, received the largest number of hymns. By degrees, as the settlers realized more and more keenly the importance of the periodical rains to their new life as husbandmen, he became the chief of the Vedic gods. 'The gods do not reach unto thee, O Indra, or men; thou overcomest all creatures in strength.' Agni, the God of Fire (Latin, *igni-s*), ranks perhaps next to Indra in the number of hymns addressed to him as 'the youngest of the gods,' 'the lord and giver of wealth.' The Maruts are the Storm Gods, 'who make the rocks to tremble, who tear in pieces the forest.' Ushas, 'the High-born Dawn' (Greek, *Eos*), 'shines upon us like a young wife, rousing every living being to go forth to his work.' The Aswins, or 'Fleet Outriders' of the Dawn, are the first rays of sunrise, 'Lords of Lustre.' The Solar Orb himself (Súrjya), the Wind (Váyu), the Sunshine or Friendly Day (Mitra), the animating fermented juice of the Sacrificial Plant (Soma), and many others, are invoked in the Veda; in all, about thirty-three gods, 'who are eleven in heaven, eleven on earth, and eleven dwelling in glory in mid-air.'

Influence of the rainy season on Aryan mythology.

The terrible blood-drinking deities of modern Hinduism are scarcely known in the Veda. Buffaloes are indeed offered; and one hymn points to a symbolism based on human sacrifices, an early practice apparently extinct before the time of the Vedic singers. The great Horse-Sacrifice seems a substitution for the flesh and blood of a man. But, as a whole, the hymns are addressed to bright, friendly gods. Rudra, who was destined to become the Siva of the Hindus, and the third person, or Destroyer, in their triad, is only the god of Roaring Tempests in the Veda. Vishnu, the second person, or Preserver, in the Hindu triad, is but slightly known as the deity of the Shining Firmament; while Brahma. the first person, or Creator, has no

The blood-loving deities of Hinduism scarcely known in the Veda.

separate existence in these simple hymns. The names of the dreadful Mahádeva, Dúrga, Kálí, and of the gentler Krishna and Ráma, are alike unknown in the Rig-Veda.

Attitude of the Vedic singer to his gods.

The Aryan settlers lived on excellent terms with their bright gods. They asked for protection with an assured conviction that it would be granted. The sense of sin, or the idea of spiritual submission, scarcely appears in the Veda. 'Give me cows, or land, or long life, in return for this hymn or offering;' 'slay my enemy, scatter the black-skin, and I will sacrifice to thee,'—such is the ordinary frame of mind of the singer to his gods. But, at the same time, he was deeply stirred by the glory and mystery of the earth and the heavens. Indeed, the majesty of nature so filled his mind, that when he praises any one of his Shining Gods he can think of none other for the time being, and adores him as the Supreme Ruler. Verses may be quoted declaring each of the greater deities to be the One Supreme: 'Neither gods nor men reach unto thee, O Indra;' Soma is 'king of heaven and earth, the conqueror of all.' To Varuna also it is said, 'Thou art lord of all, of heaven and earth; thou art king of all those who are gods, and of all those who are men.' The more spiritual of the Vedic singers, therefore, may be said to have worshipped One God, although not One Alone.

Higher conceptions of the Deity in the Veda.

Some beautiful souls among them were filled not only with the splendours of the visible universe, but with the deeper mysteries of the Unseen, and the powerlessness of man to search out God.

A Vedic hymn.

'In the beginning there arose the Golden Child. He was the one born lord of all that is. He established the earth and this sky. Who is the God to whom we shall offer our sacrifice?

'He who gives life, he who gives strength; whose command all the Bright Gods revere; whose shadow is immortality, whose shadow is death. Who is the God to whom we shall offer our sacrifice?

'He who, through his power, is the one king of the breathing and awakening world. He who governs all, man and beast. Who is the God to whom we shall offer our sacrifice?

'He through whom the sky is bright and the earth firm; he through whom the heaven was established, nay, the highest heaven; he who measured out the light and the air. Who is the God to whom we shall offer our sacrifice?

'He who by his might looked even over the water-clouds; he

who alone is God above all gods. Who is the God to whom we shall offer our sacrifice?[1]

'The Better Land.'

The yearning for rest in God, that desire for the wings of a dove, so as to fly away and be at rest, with which noble hearts have ached in all ages, breathes in several exquisite hymns of the Rig-Veda: 'Where there is eternal light, in the world where the sun is placed,—in that immortal, imperishable world, place me, O Soma! Where life is free, in the third heaven of heavens, where the worlds are radiant,—there make me immortal! Where there is happiness and delight, where joy and pleasure reside, where our desires are attained,—there make me immortal.'[2]

Burning of the dead.

While the aboriginal races buried their dead under rude stone monuments, the Aryan—alike in India, in Greece, and in Italy—made use of the funeral-pile as the most solemn method of severing the mortal from the immortal part of man. As he derived his natural birth from his parents; and a partial regeneration, or second birth, from the performance of his religious duties; so the fire, by setting free the soul from the body, completed the third or heavenly birth. His friends stood round the pyre as round a natal bed, and commanded his eye to go to the sun, his breath to the wind, his limbs to the earth,—the water and plants whence they had been derived. But 'as for his unborn part, do thou, Lord (Agni), quicken it with thy heat; let thy flame and thy brightness quicken it; convey it to the world of the righteous.'

Vedic legend of King Yama, or Death.

For the lonely journey of the soul after its separation from the body, the Aryans, both in Asia and Europe, provided a faithful guide (*Sárameyas* in Sanskrit, *Hermeias* in Greek). According to the Zend or old Aryan legend in Persia, Yama was a monarch in the old time, when sorrow and sickness were unknown. By degrees sin and disease crept into the world; the slow necessity of death hastened its step; and the old king retired, with a chosen band, from the polluted earth into a better country, where he still reigns. The Indian version of the story makes Yama to be the first man who passed through death into immortality. Having discovered the way to the other world, he leads men thither. Meanwhile his two dogs —'black and spotted,' 'broad of nostril,' and 'with a hunger never to be satisfied'—wander as his messengers among men. 'Worship with an offering King Yama, the Assembler of Men,

[1] Rig-Veda, x. 121; translated by Prof. Max Müller, *Hist. Anc. Sansk. Lit.*, p. 569. *Chips*, vol. i. p. 29 (ed. 1867).

[2] Rig-Veda, ix. 113. 7. Max Müller's translation.

who departed to the mighty waters, who found out the road for many.'[1]

The Vedic farewell to the dead.

Several exquisite hymns bid farewell to the dead:—'Depart thou, depart thou by the ancient paths to the place whither our fathers have departed. Meet with the Ancient Ones; meet with the Lord of Death. Throwing off thine imperfections, go to thy home. Become united with a body; clothe thyself in a shining form.' 'Let him depart to those for whom flow the rivers of nectar. Let him depart to those who, through meditation, have obtained the victory; who, by fixing their thoughts on the unseen, have gone to heaven. Let him depart to the mighty in battle, to the heroes who have laid down their lives for others, to those who have bestowed their goods on the poor.' The doctrine of transmigration was unknown. The circle round the funeral-pile sang with a firm assurance that their friend went direct to a state of blessedness and reunion with the loved ones who had gone before. 'Do thou conduct us to heaven,' says a hymn of the later Atharva-Veda; 'let us be with our wives and children.' 'In heaven, where our friends dwell in bliss,—having left behind the infirmities of the body, free from lameness, free from crookedness of limb,—there let us behold our parents and our children.' 'May the water-shedding spirits bear thee upwards, cooling thee with their swift motion through the air, and sprinkling thee with dew.' 'Bear him, carry him; let him, with all his faculties complete, go to the world of the righteous. Crossing the dark valley which spreadeth boundless around him, let the unborn soul ascend to heaven. Wash the feet of him who is stained with sin; let him go upwards with cleansed feet. Crossing the gloom, gazing with wonder in many directions, let the unborn soul go up to heaven.'

Vedic conceptions of immortality.

The Aryans advance into the Middle Land.

The hymns of the Rig-Veda were composed, as we have seen, by the Aryans in their colonies along the Indus, and on their march eastwards towards the Jumna and upper Ganges. The growing numbers of the settlers, and the arrival of fresh Aryan tribes from behind, still compelled them to advance. From the Land of the Sacred Singers, Manu describes them as spreading through 'The Middle Land' (*Madhyadesha*), comprising the whole river-systems of Upper India as far east as

[1] Rig-Veda, x. 14. 1. See Dr. John Muir's 'Sanskrit Texts,' and his essay on 'Yama,' *Journal of the Royal Asiatic Society*, part ii., 1865, whence many of the above quotations are derived. See also Max Müller's essay on the 'Funeral Rites of the Bráhmans,' on which the following paragraph is chiefly based.

Oudh and Allahábád, with the Himálayas as its northern, and the Vindhyá ranges as its southern boundary. The conquest of the vast new tracts thus included seems not to have commenced till the close of the Rig-Vedic era, and it must have been the work of many generations. During this advance, the simple faith of the Rig-Vedic singers was first adorned with stately rites, and then extinguished beneath them. The race progressed from a loose confederacy of tribes into several well-knit nations, each bound together by the strong central force of kingly power, directed by a powerful priesthood, and organized on a firm basis of caste.

Whence arose this new constitution of the Aryan tribes into nations, with castes, priests, and kings? We have seen that although in their earlier colonies on the Indus each father was priest in his family, yet the Chieftain, or Lord of the Settlers, called in some man specially learned in holy offerings to conduct the great tribal sacrifices. Such men were highly honoured, and the famous quarrel which runs throughout the whole Veda sprang from the claims of two rival sages, Vasishtha and Viswámitra, to perform one of these ceremonies. The art of writing was unknown, and the hymns and sacrificial words had to be handed down by word of mouth from father to son. It thus happened that the families who learned them by heart became, as it were, the hereditary owners of the liturgies required at the most solemn offerings to the gods. Members of these households were chosen again and again to conduct the tribal sacrifices, to chant the battle-hymn, to implore the divine aid, or to pray away the divine wrath. Even the Rig-Veda recognises the importance of these sacrifices. 'That king,' says a verse, 'before whom marches the priest, he alone dwells well established in his own house, to him the people bow down. The king who gives wealth to the priest, he will conquer, him the gods will protect.' The tribesmen first hoped, then believed, that a hymn or prayer which had once acted successfully, and been followed by victory, would again produce the same results. The hymns became a valuable family property for those who had composed or learned them. The Rig-Veda tells how the prayer of Vasishtha prevailed 'in the battle of the ten kings,' and how that of Viswámitra 'preserves the tribe of the Bhárats.' The potent prayer was termed *bráhma*, and he who offered it, *bráhman*. Woe to him who despised either! 'Whosoever,' says the Rig-Veda, 'scoffs at the prayer (*bráhma*) which we have made, may hot

The Aryan tribes organized into kingdoms.

Origin of priestly families.

plagues come upon him, may the sky burn up that hater of Bráhmans' (*bráhma-dvísh*).[1]

Growing numbers of priests.

Certain families thus came to have not only a hereditary claim to conduct the great sacrifices, but also the exclusive knowledge of the ancient hymns, or at any rate of the traditions which explained their symbolical meaning. They naturally tried to render the ceremonies solemn and imposing. By degrees a vast array of ministrants grew up around each of the greater sacrifices. There were first the officiating priests and their assistants, who prepared the sacrificial ground, dressed the altar, slew the victims, and poured out the libations; second, the chanters of the Vedic hymns; third, the reciters of other parts of the service; fourth, the superior priests, who watched over the whole, and corrected mistakes.

The four Vedas.

The entire service was derived from the Veda, or 'inspired knowledge,' an old Aryan word which appears in the Latin *vid-ere*, 'to see or perceive;' in the Greek *feido* of Homer, and *oida*, 'I know;' in the Old English, *I wit;* in the modern German and English, *wissen*, *wisdom*, etc.

(1) The Rig-Veda.

The Rig-Veda exhibits the hymns in their simplest form, arranged in ten 'circles,' according to the families of their composers, the Rishis. But as the sacrifices grew more elaborate, the hymns were also arranged in three collections (*sanhitás*) or service-books for the ministering priests.

(2) The Sáma-Veda.

Thus, the second, or Sáma-Veda, was made up of extracts from the Rig-Vedic hymns used at the Soma sacrifice. Some of its verses stamp themselves, by their antiquated grammatical forms, as older than their rendering in the Rig-Veda itself.

(3) The Yajur-Veda;

The third, or Yajur-Veda, consists not only of Rig-Vedic verses, but also of prose sentences, to be used at the sacrifices of the New Full Moon; and at the Great Horse Sacrifice, when 609 animals of various kinds were offered, perhaps in substitution for the earlier Man Sacrifice, which is also mentioned in it.

its (*a*) Black and (*b*) White editions.

The Yajur-Veda is divided into two editions, the Black and the White Yajur; both belonging to a more modern period than either the Rig or the Sáma Vedas, and composed after the Aryans had spread far to the east of the Indus.

(4) The Atharva-Veda.

The fourth, or Atharva-Veda, was compiled from the least ancient hymns of the Rig-Veda, in the tenth book; and from the still later songs of the Bráhmans, after they had established their priestly power. It supplies the connecting

[1] I gladly acknowledge my obligations in several of the following pages to Albrecht Weber's *History of Indian Literature* (No. iii. of Trübner's Oriental Series, 1878). This book, if really brought up to date, would form an invaluable compendium for the Sanskrit student.

link between the simple Aryan worship of the Shining Ones exhibited in the Rig-Veda, and the complex Bráhmanical system which followed; and it was allowed to rank as part of the Veda only after a long struggle.

The four Vedas become insufficient.

The four Vedas thus described, namely, the Rig-Veda, the Sáma, the Yajur, and the Atharva, formed an immense body of sacrificial poetry. But as the priests grew in number and power, they went on elaborating their ceremonies, until even the four Vedas became insufficient guides to them. They accordingly compiled prose treatises, called Bráhmanas, attached to each of the four Vedas, in order to more fully explain the functions of the officiating priests. Thus the Bráhmana of the Rig-Veda deals with the duties of the Reciter of the Hymns (*hotar*); the Bráhmana of the Sáma-Veda, with those of the Singer at the Soma sacrifice (*udgátar*); the Bráhmana of the Yajur-Veda, with those of the actual performer of the Sacrifice (*adhvaryu*); while the Bráhmana of the Atharva-Veda is a medley of legends and speculations, having but little direct connection with the Veda whose name it bears. All the Bráhmanas, indeed, besides explaining the ritual, lay down religious precepts and dogmas. Like the four Vedas, they are held to be the very Word of God. The Vedas and the Bráhmanas form the Revealed Scriptures (*sruti*) of the Hindus; the Vedas supplying their divinely inspired psalms, and the Bráhmanas their divinely inspired theology or body of doctrine.

The Bráhmanas compiled.

The Sútras or Sacred Traditions;

Even this ample literature did not suffice. The priests accordingly composed a number of new works, called Sútras, which elaborated still further their system of sacrifice, and which asserted still more strongly their own claims as a separate and superior caste. They alleged that these Sútras, although not directly revealed by God, were founded on the inspired Vedas and Bráhmanas, and that they had therefore a divine authority as sacred traditions (*smriti*). The Sútras were composed in the form of, literally, *strings* of aphorisms or short sentences, for the sake of brevity, and in order that their vast number might be the better remembered in an age when writing was little practised, or unknown. Some of them, such as the Kalpa-Sútras, deal with the ritual and sacrifices; others, like the 'Household' or Grihya-Sútras, with the ceremonies at birth, marriage, and death; a still larger class of Sútras with the doctrines, duties, and privileges of the priests. They thus became the foundation of the whole legislation and philosophy of the Bráhmans in later times. The Sútras exhibit

their subject-matter.

The Bráhman caste fully formed.

the Bráhmans no longer as the individual sacrificers of the Vedic period, but as a powerful hereditary caste, claiming supremacy alike over the kings and the people.

Growth of the warrior caste (Kshatriyas).

Meanwhile, other castes had been gradually formed. As the Aryans moved eastwards from the Indus, some of the warriors were more fortunate than others, or received larger shares of the conquered lands. Such families had not to till their fields with their own hands, but could leave that work to be done by the aboriginal races whom they subdued. In this way there grew up a class of warriors, freed from the labour of husbandry, who surrounded the chief or king, and were always ready for battle. It seems likely that these kinsmen and companions of the king formed an important class among the early Aryan tribes in India, as they certainly did among the ancient branches of the race in Europe, and still do at the petty courts of India. Their old Sanskrit names, *Kshattriya*, *Rájanya*, and *Rájbansi*, mean 'connected with the royal power,' or 'of the royal line'; their usual modern name *Rájput* means 'of royal descent.' In process of time, when the Aryans settled down, not as mere fighting clans, but as powerful nations, in the Middle Land along the Jumna and Ganges, this warrior class grew in numbers and in power. The black races had been reduced to serfdom, or driven back towards the Himálayas and the Vindhyás, on the north and the south of the central tract. The incessant fighting, which had formed the common lot of the tribes on their actual migration eastwards from the Indus, ceased. A section of the people laid aside their arms, and devoted themselves to agriculture or other peaceful pursuits. The sultry heats of the Middle Land must also have abated their old northern energy, and led them to love repose. Those who, from family ties or from personal inclination, preferred a soldier's life, had to go beyond the frontier to find an enemy. Distant expeditions of this sort could be undertaken much less conveniently by the husbandman than in the ancient time, when his fields lay on the very border of the enemy's country, and had just been wrested from it. Such expeditions required and probably developed a class of soldiers, whose presence was not constantly needed at home for tilling the land. The old warrior companions and kinsmen of the king formed a nucleus round which gathered the more daring spirits, and laid the foundation of a military caste.

The cultivating caste (Vaisyas).

The four castes:

The Aryans on the Ganges, in the 'Middle Land,' thus found themselves divided into three classes—first, the priests,

or Bráhmans; second, the warriors and king's companions, called in ancient times Kshattriyas, at the present day Rájputs; third, the husbandmen, or agricultural settlers, who retained the old name of Vaisyas, from the root *vis*, which in the Vedic period had included the whole 'people.' These three classes gradually became distinct castes; intermarriage between them ceased, and each kept more and more strictly to its hereditary employment. But they were all recognised as belonging to 'Twice-born,' or Aryan race; they were all present at the great national sacrifices; and all worshipped the same Bright Gods. Beneath them was a fourth or servile class, called Súdras, the remnants of the vanquished aboriginal tribes whose lives had been spared. These were 'the slave-bands of black descent,' the Dásas of the Veda. They were distinguished from their 'Twice-born' Aryan conquerors as being only 'Once-born,' and by many contemptuous epithets. They were not allowed to be present at the great national sacrifices, or at the feasts which followed them. They could never rise out of their servile condition; and to them was assigned the severest toil in the fields, and all the hard and dirty work of the village community.

(1) Bráhmans, (2) Kshattriyas, (3) Vaisyas, (4) Súdras.

Of the four Indian castes, three had a tendency to increase. As the Aryan conquests spread, more aboriginal tribes were reduced to serfdom, as Súdras. The warriors, or Kshattriyas, would constantly receive additions from the more wealthy or enterprising members of the cultivating class. When an expedition or migration went forth to subdue new territory, the whole colonists would for a time lead a military life, and their sons would probably all regard themselves as Kshattriyas. In ancient times, entire tribes, and at the present day the mass of the population throughout large tracts, thus claim to be of the warrior or Rájput caste. Moreover, the kings and fighting-men of aboriginal races who, without being conquered by the Aryans, entered into alliance with them, would probably assume names of the warrior or Kshattriyan rank. We see this process going on before our eyes among many of the aboriginal peoples. The Bráhmans, in their turn, seem at first to have received into their body distinguished families of Kshattriya descent. In later times, too, we find that sections of aboriginal races were 'manufactured' into Bráhmans. The Vaisya or cultivating caste did not tend, in this manner, to increase. No one felt ambitious to win his way into it, except perhaps the poor Súdras, to whom any change of condition was forbidden. The Vaisyas themselves tended in early times to rise into the more honourable warrior class;

The Bráhmans, Kshattriyas, and Súdras increase.

The Vaisyas diminish.

and at a later period, to be mingled with the labouring multitude of Súdras and of mixed descent. In many Provinces they have almost disappeared as a distinct caste from the modern population. In ancient India, as at the present day, the three conspicuous castes were (1) the priests and (2) warriors, of Aryan birth, and (3) the serfs or Súdras, the remnants of earlier races. The Súdras had no rights; and, once conquered, ceased to struggle against their fate. But a long contest raged between the priests and warriors for the chief place in the Aryan commonwealth.

Struggle between priestly and warrior castes.

In order to understand this contest, we must go back to the time when the priests and warriors were simply fellow-tribesmen. The Bráhman caste seems to have grown out of the families of Rishis who composed the Vedic hymns, or were chosen to conduct the great tribal sacrifices. In after-times, the whole Bráhman population of India pretended to trace their descent from Seven Rishis. But the composers of the Vedic hymns were sometimes kings or distinguished warriors rather than priests; indeed, the Veda itself speaks of these royal Rishis (*Rájarshis*). When the Bráhmans put forward their claim to the highest rank, the warriors or Kshattriyas were slow to admit it; and when the Bráhmans went a step further, and declared that only members of their families could be priests, or gain admission into the priestly caste, the warriors disputed their pretensions. In later ages, the Bráhmans, having the exclusive keeping of the sacred writings, effaced from them, as far as possible, all traces of the struggle. They taught that their caste had come forth from the mouth of God, divinely appointed to the priesthood from the beginning of time. Nevertheless, a large body of Vedic verses and Sanskrit texts has now been brought to bear upon the struggle between the Bráhmans and Kshattriyas for the highest rank.

Rising pretension of the Bráhmans.

Viswámitra and Vasishtha.

The quarrel between the two sages Viswámitra and Vasishtha, which, as I have mentioned, runs through the whole Veda, is typical of this struggle. Viswámitra stands as a representative of the royal-warrior rank, who claims to perform a great public sacrifice. The white-robed Vasishtha represents the Bráhmans or hereditary priesthood, and opposes the warrior's claim. In the end, Viswámitra established his title to conduct the sacrifice; but the Bráhmans explain this by saying that his virtues and austerities won admission for him into the priestly family of Bhrigu. He thus became a Bráhman, and could lawfully fill the priestly office. Viswámitra serves as a typical link, not only between the priestly and the worldly

castes, but also between the sacred and the profane sciences. He was the legendary founder of the art of war, and his equally legendary son Susruta is quoted as the earliest authority on Indian medicine. These two sciences of war and medicine form *upa - Vedas*, or supplementary sections of the divinely inspired knowledge of the Bráhmans.

Other cases of Kshattriyas attaining to Bráhmanhood.

Another famous royal Rishi, Vítahavya, 'attained the condition of Bráhmanhood, venerated by mankind,' by a word of the saintly Bhrigu. Parasu-Ráma, the Divine Champion of the Bráhmans, was of warrior descent by his mother's side. Manu, their legislator, sprang from the warrior caste; and his father is expressly called 'the seed of all the Kshattriyas.' But when the Bráhmans had firmly established their supremacy they became reluctant to allow the possibility of even princes finding an entrance into their sacred order. King Ganaka was more learned than all the Bráhmans at his court, and performed terrible penances to attain to Bráhmanhood. Yet the legends leave it doubtful if he gained his desire. The still more holy, but probably later, Matanga, wore his body to skin and bone by a thousand years of austerities, and was held from falling by the hand of Indra himself. Nevertheless, he could not attain to Bráhmanhood. The reformer, Gautama Buddha, who in the 6th century before Christ overthrew the Bráhman supremacy, and founded a new religion, was a prince of warrior descent, perhaps born in too late an age to be adopted into, and utilized by, the Bráhman caste.

The 'Middle Land,' the focus of Bráhmanism.

In some of the Aryan tribes the priests apparently failed to establish themselves as an exclusive order. Indeed, the four castes, and especially the Bráhman caste, seem only to have obtained their full development amid the plenty of the Middle Land (*Madhya-desha*), watered by the Jumna and the Ganges. The earlier Aryan settlements to the west of the Indus remained outside the caste system; the later Aryan offshoots to the south and east of the Middle Land only partially carried that system with them. But in the Middle Land itself, with Delhi as its western capital, and the great cities of Ajodhya and Benares on its eastern frontier, the Bráhmans grew by degrees into a compact, learned, and supremely influential body, the makers of Sanskrit literature. Their language, their religion, and their laws, became in after times the standards aimed at throughout all India. They naturally denounced all who did not submit to their pretensions, and stigmatized the other Aryan settlements who had not accepted their caste system as lapsed tribes or outcasts (*Vrishalas*). Among the lists of such

Aryan tribes beyond the Bráhmanical pale.

fallen races we read the name afterwards applied to the Ionians or Greeks (*Yavanas*). The Bráhmans of the Middle Land had not only to enforce their supremacy over the powerful warriors of their own kingdoms, but to extend it among the outlying Aryan tribes who had never fully accepted their caste system. This must have been the slow work of ages, and it seems to have led to bitter feuds.

Bráhman discomfitures.

There were moments of defeat, indeed, when Bráhman leaders acknowledged the superiority of the warrior caste. 'None is greater,' says the Brihad Aranyaka Upanishad, 'than the Kshattriya; therefore the Bráhman, under the Kshattriya, worships at the royal sacrifice (*rájasúya*).'[1] It seems likely that numbers of the Vaisyas or cultivators would take part with the Kshattriyas, and be admitted into their caste. That the contest was not a bloodless one is attested by many legends, especially that of Parasu-Ráma, or 'Ráma of the Axe.' This hero, who was divinely honoured as the sixth Incarnation of Vishnu, appeared on the scene after alternate massacres by Bráhmans and Kshattriyas had taken place. He fought on the Bráhman side, and covered India with the carcases of the warrior caste. 'Thrice seven times,' says the Sanskrit epic, 'did he clear the earth of the Kshattriyas,' and so ended in favour of the Bráhmans the long and bloody struggle.

The Bráhman supremacy established.

It is vain to search into the exact historical value of such legends. They suffice to record an opposition among the early Aryan kingdoms to the claims of the Bráhmans, and the mingled measures of conciliation and force by which that opposition was overcome. The Bráhman caste, having established its power, made a wise use of it.

They make a wise use of it.

From the ancient Vedic times its leaders recognised that if they were to exercise spiritual supremacy, they must renounce earthly pomp. In arrogating the priestly function, they gave up all claim to the royal office. They were divinely appointed to be the guides of nations and the counsellors of kings, but they could not be kings themselves. As the duty of the Súdra was to serve, of the Vaisya to till the ground and follow middle-class trades or crafts, so the business of the Kshattriya was with the public enemy, and of the Bráhmans with the national gods.

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Four stages of a Bráhman's life.

While the Bráhman leaders thus organized the occupations of the commonwealth, they also laid down strict rules for their own caste. They felt that as their functions were mysterious and above the reach of other men, so also must be their lives. Each day brought its hourly routine of ceremonies, studies, and duties. Their whole life was mapped out into four clearly defined stages of discipline. For their existence, in its full religious significance, commenced not at birth, but on being invested at the close of childhood with the sacred thread of the Twice-Born. Their youth and early manhood were to be entirely spent in learning by heart from some Bráhman the inspired Scriptures, tending the sacred fire, and serving their preceptor. Having completed his long studies, the Bráhman entered on the second stage of his life, as a householder. He married and commenced a course of family duties. When he had reared a family, and gained a practical knowledge of the world, he retired into the forest as a recluse, for the third period of his life; feeding on roots or fruits, and practising his religious duties with increased devotion. The fourth stage was that of the ascetic or religious mendicant, wholly withdrawn from earthly affairs, and striving to attain a condition of mind which, heedless of the joys, or pains, or wants of the body, is intent only on its final absorption into the deity. The Bráhman, in this fourth stage of his life, ate nothing but what was given to him unasked, and abode not more than one day in any village, lest the vanities of the world should find entrance into his heart. Throughout his whole existence, he practised a strict temperance; drinking no wine, using a simple diet, curbing the desires, shut off from the tumults of war, and having his thoughts ever fixed on study and contemplation. 'What is this world?' says a Bráhman sage. 'It is even as the bough of a tree, on which a bird rests for a night, and in the morning flies away.'

1st stage: the Learner (*brahmachári*).

(2) The Householder (*grihastha*).

(3) The Forest-Recluse (*vánaprastha*).

(4) The Ascetic (*sannyási*).

Bráhman ideal of life.

It may be objected that so severe a life of discipline could never be led by any large class of men. And no doubt there have been at all times worldly Bráhmans; and the struggle for existence in modern times has compelled the great majority of the Bráhmans to betake themselves to more practical pursuits. But the whole body of Sanskrit literature bears witness to the fact that this ideal life was constantly before their eyes, and that it served to the whole caste as a high standard in its two really essential features of self-culture and self-restraint. Incidents in the history of Buddha, in the 6th century before Christ, show that numbers of Bráhmans at that time lived

according to its rule; and three hundred years later, the Greek ambassador, Megasthenes, found the Bráhmans discoursing in their groves, chiefly on life and death. The Chinese travellers, down to the 10th century A.D., attest the survival of the Bráhmanical pattern of the religious life. The whole monastic system of India, and those vast religious revivals which have given birth to the modern sects of Hinduism, are based on the same withdrawal from worldly affairs. At this day, Bráhman colleges, called *tols*, are carried on without fees, on the old model, at Nadiyá in Bengal, and elsewhere. I can testify, from personal visits, to the stringent self-discipline, and to the devotion to learning for its own sake, often protracted till past middle-life, and sometimes by grey-haired students, in these retreats.

Bráhman rule of life.

The Bráhmans, therefore, were a body of men who, in an early stage of this world's history, bound themselves by a rule of life the essential precepts of which were self-culture and self-restraint. As they married within their own caste, begat children only during their prime, and were not liable to lose the finest of their youth in war, they transmitted their best qualities in an ever-increasing measure to their descendants.

Its hereditary results on the caste.

The Bráhmans of the present day are the result of 3000 years of hereditary education and self-restraint; and they have evolved a type of mankind quite distinct from the surrounding population. Even the passing traveller in India marks them out, alike from the bronze-cheeked, large-limbed, leisure-loving Rájput or warrior caste of Aryan descent; and from the dark-skinned, flat-nosed, thick-lipped low-castes of non-Aryan origin, with their short bodies and bullet heads. The Bráhman stands apart from both, tall and slim, with finely modelled lips and nose, fair complexion, high forehead, and slightly cocoa-nut shaped skull—the man of self-centred refinement. He is an example of a class becoming the ruling power in a country, not by force of arms, but by the vigour of hereditary culture and temperance. One race has swept across India after another, dynasties have risen and fallen, religions have spread themselves over the land and disappeared. But since the dawn of history, the Bráhman has calmly ruled; swaying the minds and receiving the homage of the people, and accepted by foreign nations as the highest type of Indian mankind.

The work done by the Bráhmans for India.

The paramount position which the Bráhmans won, resulted, in no small measure, from the benefits which they bestowed. For their own Aryan countrymen, they developed a noble language and literature. The Bráhmans were not only the

priests and philosophers, but also the lawgivers, the administrators, the men of science, and the poets of their race. Their influence on the aboriginal peoples, the hill and forest races of India, was even more important. To these rude remnants of the flint and bronze ages they brought, in ancient times, a knowledge of the metals and the gods. Within the historical period, the Bráhmans have incorporated the mass of the backward races into the social and religious organization of Hinduism. A system of worship is a great comfort to a tropical people, hemmed in by the uncontrolled forces of nature, as it teaches them how to propitiate those mysterious powers, and so tends to liberate their minds from the terrors of the unseen. The reflective life of the Middle Land (*Madhya-desha*) led the Bráhmans to see that the old gods of the Vedic hymns were in reality not supreme beings, but poetic fictions. For when they came to think the matter out, they found that the sun, the aqueous vapour, the encompassing sky, the wind, and the dawn, could not each be separate and supreme creators, but must have all proceeded from one First Cause. They did not shock the religious sense of the less speculative castes by any public rejection of the Vedic deities. They accepted the old 'Shining Ones' of the Veda as beautiful manifestations of the divine power, and continued to decorously conduct the sacrifices in their honour. But among their own caste, the Bráhmans distinctly enunciated the unity of God. To the Veda, the Bráhmanas, and the Sútras, they added a vast body of theological literature, composed at intervals between 800 B.C. and 1000 A.D. The Upanishads, meaning, according to their great Bráhman expounder, 'The Science of God,' and His 'identity with the soul;' the Aranyakas, or 'Tracts for the Forest-Recluse;' and the much later Puránas, or 'Traditions from of Old,'—contain mystic and beautiful doctrines regarding the unity of God and the immortality of the soul, mingled with less noble dogmas, popular tales, and superstitions. The mass of the people were left to believe in four castes, four Vedas, and many deities. But the higher thinkers among the Bráhmans recognised that in the beginning there was but one caste, one Veda, and one God.

Bráhman theology.

The old 'Shining Ones' of the Vedic singers were, indeed, no longer suitable deities, either for the life which the Aryans led after they advanced into Southern Bengal, or for the country in which they lived. The Vedic gods were the good 'friends' of the free-hearted warring tribes in Northern India, settled on the banks of fordable streams or of not overpowering rivers.

Rise of the post-Vedic gods.

In Central and South-Eastern Bengal, the Bráhmans required deities whose nature and attributes would satisfy profoundly reflective minds, and at the same time would be commensurate with the stupendous forces of nature amid which they dwelt. The storm-gods (*Maruts*) of the Veda might suffice to raise the dust-whirlwinds of the Punjab, but they were evidently deities on a smaller scale than those which wielded the irresistible cyclones of Bengal. The rivers, too, had ceased to be merely bountiful givers of wealth, as in the north. Their accumulated waters came down in floods, which buried cities and drowned provinces; wrenching away the villages on their banks, destroying and reproducing the land with an equal balance. The High-born Dawn, the Genial Sun, and the Friendly Day, with the other kind but confused old groups of Vedic deities, gave place to the conception of one god in his three solemn manifestations as Brahma the Creator, Vishnu the Preserver, and Siva the Destroyer and Reproducer. Each of these had his prototype among the Vedic deities; and they remain to this hour the three persons of the Hindu triad. Brahma, the Creator, was too abstract an idea to be a popular god; and in my journeys through India, I have only come across a single great seat of his worship at the present day, on the margin of the sacred lake PUSHKARA, near Ajmere. One day of Brahma is 2160 millions of man's years. Vishnu, the Preserver, was a more useful and practical deity. In his ten incarnations, especially in his seventh and eighth as Ráma and Krishna, under many names and in very varied forms, he took the place of the old bright Vedic gods. Siva, the third person of the triad, embodied as Destroyer and Reproducer the profound conception of death as a change of state and an entry into new life. He thus obtained, on the one hand, the special reverence of the mystic and philosophic sects among the Bráhmans; while, on the other, his terrible aspects associated him alike with the Rudra, or 'God of Roaring Tempests,' of the Veda, and with the blood-loving deities of the non-Aryan tribes. Vishnu and Siva, in their diverse male and female shapes, now form, for practical purposes, the gods of the Hindu population.

The Hindu triad: Brahma; Vishnu; Siva.

Bráhman philosophy.

The truth is, that the Aryans in India worshipped—first, as they felt; then, as they admired; and finally, as they reasoned. Their earliest Vedic gods were the stupendous phenomena of the visible world; their deities became divine heroes in the epic legends; and were spiritualized into abstractions by the philosophical schools. From the Vedic era downward— that is to say, during a period which cannot be estimated at

less than 3000 years—the Bráhmans have slowly elaborated the forces and splendid manifestations of nature into a harmonious godhead, and constructed a system of belief and worship for the Indian people. They also pondered deeply on the mysteries of life. Whence arose this fabric of the visible world, and whence came we ourselves—we who with conscious minds look out upon it? It is to these questions that philosophy has, among all races, owed her birth; and the Bráhmans arranged their widely diverse answers to them in six great systems or *darsanas*, literally 'mirrors of knowledge.' I can only touch upon the vast body of speculation which thus grew up, at least 500 years before Christ. The universal insoluble problems of thought and being, of mind and matter, and of soul as apart from both, of the origin of evil, of the *summum bonum* of life, of necessity and freewill, and of the relations of the Creator to the creature, are endlessly discussed. The Sánkhya, founded by the sage Kapila, explains the visible world by assuming the existence of a primordial matter from all eternity, out of which the universe has, by successive stages, evolved itself. The Yoga school of Patanjali assumes the existence of a primordial soul, anterior to the primeval matter, and holds that from the union of the two the spirit of life (*mahán-átmá*) arose. The two Vedanta schools ascribe the visible world to a divine act of creation, and assume an omnipotent god as the cause of the existence, the continuance, and the dissolution of the universe. The Nyáya or logical school of Gautama enunciates the method of arriving at truth, and lays special stress on the sensations. It is usually classed together with the sixth school, the Vaiseshika, founded by the sage Kanáda, which teaches the existence of a transient world composed of eternal atoms. All the six schools had the same starting-point, *ex nihilo nihil fit*; and their sages, as a rule, struggled towards the same end, the liberation of the human soul from the necessity of existence and from the chain of future births, by its absorption into the Supreme Soul, or the primordial essence, of the universe.[1]

The six *darsanas* or schools:

(1) The Sánkhya;

(2) The Yoga;

(3, 4) The Vedantas;

(5) The Nyáya;

(6) The Vaiseshika.

The Bráhmans, therefore, treated philosophy as a branch of religion. Now the universal problems of religion are to lay

Summary of Bráhman religion.

[1] Any attempt to fuse into a few lines the vast conflicting masses of Hindu philosophical doctrines must be unsatisfactory. Objections may be taken to compressing the subdivisions and branching doctrines of each school into a single sentence. But space forbids a more lengthy disquisition; and I have based the above paragraphs as fairly as I can on the accounts which H. H. Wilson, Albrecht Weber, Professor Dowson, and the Rev. K. M. Banarji give of the Six *Darsanas* or Schools.

down a rule of conduct for this life, and to supply some guide to the next. The Bráhman solutions to the practical questions involved, were self-discipline, alms, sacrifice to and contemplation of the deity. But besides the practical questions of a religious life, religion has also intellectual problems, such as the compatibility of evil with the goodness of God, and the unequal distribution of happiness and misery in this life. Bráhman philosophy exhausted the possible solutions of these difficulties, and of most of the other great problems which have since perplexed Greek and Roman, mediæval schoolman, and modern man of science. The various theories of Creation, Arrangement, and Development were each elaborated; and the views of physiologists at the present day are a return, with new lights, to the evolution theory of Kapila, whose Sánkhya system is held by Weber to be the oldest of the six Bráhman schools, and which certainly dates not later than 500 B.C. The works on Religion published in the native languages in India in 1877, numbered 1192, besides 56 on Mental and Moral Philosophy.

Bráhman science.

The Bráhmans had also a circle of sciences of their own. The Science of Language, indeed, had been reduced in India to fundamental principles at a time when the grammarians of the West still treated it on the basis of accidental resemblances; and modern philology dates from the study of Sanskrit by European scholars. Pánini was the architect of Sanskrit grammar; but a long succession of learned men must have laboured before he reared his enduring fabric. The date of Pánini has been fixed by his learned editor Böhtlink at about 350 B.C.; but Weber, reasoning from a statement made (long afterwards) by the Chinese pilgrim Hiouen Thsang, suggests that it may have been later. The grammar of Pánini stands supreme among the grammars of the world, alike for its precision of statement and for its thorough analysis of the roots of the language and of the formative principles of words. By employing an algebraic terminology it attains a sharp succinctness unrivalled in brevity, but at times enigmatical. It arranges, in logical harmony, the whole phenomena which the Sanskrit language presents, and stands forth as one of the most splendid achievements of human invention and industry. So elaborate is the structure, that doubts have arisen whether its innumerable rules of formation and phonetic change, its polysyllabic derivatives, its ten conjugations with their multiform aorists and long array of tenses, could ever have been the spoken language of a people. It is certain

Sanskrit grammar.

Pánini.

that at an early date Sanskrit began to undergo simplification; and that the Aryan peasant, alike in his ancient and modern vernaculars, contented himself with narrower forms of speech.

It seems probable, indeed, that this divergence took place before the time of Pánini (350 B.C.), and that the spoken language, or *Prákrita-bháshá*, had already assumed simpler forms by the assimilation of consonants and the curtailment of terminals. The *Sanskrita-bháshá*, literally, the 'perfected speech,' which Pánini stereotyped by his grammar, retained the old Aryan accumulations of consonants, with an undiminished array of inflections. In this language the Bráhmans wrote. It became the literary language of India,—isolated from the spoken dialects, but prescribed as the vehicle for philosophy, science, and all poetry of serious aim or epic dignity. As the Aryan race mingled with the previous inhabitants of the land, the Indian vernaculars adopted words of non-Aryan origin, and severed themselves completely from Sanskrit, which for many hundred years has been unintelligible to the common people of India. The old synthetic Sanskrit underwent the same process as Latin did, into an analytic language, and about the same time. Each of these noble languages died, and each gave birth to a family of languages which can never die. An intermediate stage of the process can be traced in the Hindu drama, in which persons of good birth speak in Prákritised Sanskrit, and the low-castes in a *bháshá*, or patois, between the old Prákrit and the modern dialects. It is chiefly under the popularizing influences of British rule that the Indian vernaculars have become literary languages. Until the last century, Sanskrit, although as dead as Latin so far as the mass of the people were concerned, was the vehicle for all intellectual and artistic efforts of the Hindus, their local ballads excepted. In addition to their other sources of influence, therefore, the Bráhmans were the interpreters of a national literature written in a language unknown to the people.

Sanskrit and Prákrit speech.

The priceless inheritance thus committed to their charge they handed down, to a great extent, by word of mouth. Partly from this cause, but chiefly owing to the destructive climate of India, no Sanskrit manuscripts of remote antiquity exist. A fairly continuous series of inscriptions on rocks, pillars, and copper-plates enable us to trace back the Indian alphabets to the 3rd century B.C. But even the more ancient of the Sanskrit manuscripts are only four hundred years old, very few have an age exceeding five centuries, and only two date as

Sanskrit manuscripts.

No very ancient ones.

far back as 1132 and 1008 A.D.[1] The earliest of them (1008 A.D.) comes from the cold, dry highlands of Nepál.[2] With regard to the origin of the Indian alphabets, the evidence is still too undigested to allow of cursory statement. Of the two characters in which the Asoka inscriptions were written (250 A.D.), the northern variety, or Ariano-Páli, is now admitted to be of Phœnician, or at any rate of non-Indian, parentage. The southern variety, or Indo-Páli, is believed by some scholars to be of Western origin, while others hold it to be an independent Indian alphabet; and an attempt has even been made to trace back its letters to an indigenous system of picture-writing, or hieroglyphics, in pre-historic India.[3] Quintus Curtius mentions that the Indians wrote on leaves in the time of Alexander (326 B.C.).[4] They do so to this hour.

Sanskrit writings almost entirely in verse.

Sanskrit literature was the more easily transmitted by word of mouth, from the circumstance that it was entirely written in verse. A prose style, simple and compact, had grown up during the early age following that of the Vedic hymns. But Sanskrit literature begins with the later, although still ancient, stage of Aryan development, which had superseded the Vedic gods by the Bráhmanical triad, Brahma, Vishnu, and Siva. When Sanskrit appears definitively on the scene in the centuries preceding the birth of Christ, it adopted once and for all a rhythmic versification alike for poetry, philosophy, science, law, and religion, with the exception of the Beast Fables and the almost algebraic strings of aphorisms in the Sútras. The Buddhist legends adhered more closely to the spoken dialects of ancient India, *prákrita-bháshá;* and they have also retained a prose style. But in classical Sanskrit literature, prose became an

[1] Footnote 198a to Weber's *Hist. Ind. Lit.*, p. 182 (1878), quoting the report of Rájendrá Lálá Mitra (1874), and Dr. Rost's letter (1875). Mr. R. Cust, in a note to me, assigns the year 883 A.D. as the date of the earliest existing Sanskrit MS. at Cambridge. But this is a moot point (1880).

[2] I have printed and sent to the India Office Library, for public reference, a catalogue of the 332 Sanskrit Buddhist MSS. collected by Mr. B. H. Hodgson in Nepal.

[3] By General Cunningham, *Corpus Inscriptionum Indicarum*, pp. 52 *et seq.* The attempt cannot be pronounced successful. Dr. Burnell's *Palæography of Southern India* exhibits the successive developments of the Indian alphabet. For the growth of the Indian dialects, see Mr. Beames' *Comparative Grammar of the Modern Aryan Languages of India;* Dr. Rudolph Hœrnle's *Comparative Grammar of the Gaudian Languages;* two excellent papers, by Mr. E. L. Brandreth, on the Gaurian Languages, in the *Journ. Roy. As. Soc.*, vols. xi. xii.; and Mr. R. N. Cust's *Linguistic and Oriental Essays*, pp. 144-171, Trübner, 1880. For a compendious view of the Indian alphabets, see Faulmann's *Buch der Schrift*, 119-158, Vienna, 1880.

[4] *Alexander in India*, lib. viii. cap. 9, v. 15.

arrested development; the *sloka* or verse reigned supreme; and nothing can be clumsier than the attempts at prose in the later romances and commentaries. Prose-writing was practically a lost art in India during eighteen hundred years. Prose, a forgotten art.

Sanskrit dictionaries are a much later product than Sanskrit grammar. The oldest Indian lexicographer whose work survives, Amara-sinha, ranked among the 'nine gems' at the court of Vikramáditya, one of several monarchs of the same name—assigned to various periods from 56 B.C. to 1050 A.D. This dictionary furnishes data which certainly belong to a later period than the 1st century B.C.; probably to many hundred years later. The other Sanskrit lexicons which have come down belong to the 11th, 12th, and subsequent centuries. Those centuries, indeed, seem to mark an era of industry in dictionary-making; and there is no inherent evidence in Amara-sinha's work (the Amara-kosha) to show that it was separated from them by any wide interval. The number of works on language, published in 1877 in India, was 604. Sanskrit dictionaries.

The astronomy of the Bráhmans has formed alternately the subject of excessive admiration and of misplaced contempt. The truth is, that there are three periods of Sanskrit astronomy (*Jyoti-sástra*). The first period belongs to Vedic times, and has left a moderate store of independent observations and inferences worked out by the Bráhmans. The Vedic poets had arrived at a tolerably correct calculation of the solar year; which they divided into 360 days, with an intercalary month every five years. They were also acquainted with the phases of the moon; they divided her pathway through the heavens into 27 or 28 lunar mansions; and had made observations of a few of the fixed stars. The order in which the lunar mansions are enumerated is one which must have been established 'somewhere between 1472 and 536 B.C.' (Weber). The planets were also an independent, although a later discovery, bordering on the Vedic period. At first seven, afterwards nine in number, they bear names of Indian origin; and the generic term for planet, *graha*, the seizer, had its source in primitive Sanskrit astrology. They are mentioned for the first time, perhaps, in the Taittiríya-Aryanaka. The Laws of Manu, however, are silent regarding them; but their worship is inculcated in the later code of Yájnavalkya. The zodiacal signs and the Jyotisha, or so-called Vedic Calendar,—with its solstitial points referring to 1181 B.C., or to a period still more remote,—seem to have been constructed, or at any rate completed, in an age long subsequent to the Veda. The influence of the Chinese Bráhman astronomy. Independent period, to 300 B.C.

observers upon Indian astronomy, especially with regard to the lunar mansions, is an undecided but a pregnant question.

2nd period; Greek influences, 300 B.C. to 1000 A.D.

The second period of Bráhman astronomy dates from the Greek and Greco-Bactrian invasions of India, during the three centuries before Christ. The influence of Greece infused new life into the astronomy of the Hindus. The Indian astronomers of this period speak of the Yavanas, or Greeks, as their instructors; and one of their five systems is entitled the Romaka-Siddhánta.[1] Their chief writer in the 6th century, Varáha-Mihira, 504 A.D., gives the Greek names of the planets side by side with their Indian appellations; and one of his works bears a Greek title, Horá-Sástra (ὥρη). The Greek division of the heavens into zodiacal signs, decani, and degrees, enabled the Bráhmans to cultivate astronomy in a scientific spirit; and they elaborated a new system of their own. They rectified the succession of the Sanskrit lunar mansions which had ceased to be in accordance with the actual facts, transferring the two last of the old order to the first two places in the new. In some points the Bráhmans made advances beyond Greek astronomy. Their fame spread in turn throughout the West, and found entrance into the Chronicon Paschale (commenced about 330 A.D.; revised, under Heraclius, 610-641 A.D.). In the 8th and 9th centuries, the Arabs became their disciples, borrowed the lunar mansions in the revised order from the Hindus, and translated the Sanskrit astronomical treatises *Siddhántas* under the name of *Sindhends*. The Bráhman astronomer of the 6th century, Varáha-Mihira, was followed by a famous sage, Brahmagupta, in the 7th (664 A.D.); and by a succession of distinguished workers, ending with Bháskara, in the 12th (1150 A.D.).

3rd period; decay under Muhammadan rule—1150-1800 A.D.

Jái Sinh's observatories, 1728.

The Muhammadan conquest of India then put a stop to further independent progress. After the death of Bháskara, Indian astronomy gradually decayed, and owed any occasional impulse of vitality to Arabic science. Hindu observers of note arose at rare intervals. Thus, in the beginning of the 18th century, Rájá Jái Sinh II. constructed a set of observatories at his capital Jáipur, and at Delhi, Benares, Muttra, and Ujjain, by which he was able to correct the astronomical tables of De la Hire, published in 1702, before the French accepted the Newtonian Astronomy. The Rájá left, as a monument of

[1] That is, the Grecian Siddhánta. Another, the Paulisa-Siddhánta, is stated by Al Biruni to have been composed by Paulus al Yúnání, and is probably to be regarded, says Weber, as a translation of the Εἰσαγωγή of Paulus Alexandrinus. But see Weber's own footnote, No. 277, p. 253, *Hist. Ind. Lit.* (1878).

his skill, lists of stars collated by himself, known as the Tij Muhammad Sháhi, or Tables of Muhammad Sháh, the Emperor of Delhi, by whose command he undertook the reformation of the Indian Calendar. His observatory at Benares survives to this day. Nevertheless, Hindu astronomy steadily declined. Even from Vedic times it had linked omens and portents with the study of the heavens, and under the Muhammadan dynasties it degenerated into a tool of trade in the hands of almanac-makers, genealogists, astrologers, and charlatans.

Bráhman mathematics.

In algebra and arithmetic, the Bráhmans attained to a high degree of proficiency independent of Western aid. To them we owe the invention of the numerical symbols on the decimal system; the Indian figures 1 to 9 being abbreviated forms of the initial letters of the numerals themselves,[1] and the zero, or o, representing the first letter of the Sanskrit word for empty (*súnya*). The Arabs borrowed them from the Hindus, and transmitted them to Europe. The Arabian mathematicians, indeed, frequently extol the learning of the Indians; and the Sanskrit term for the apex of a planet's orbit seems to have passed into the Latin translations of the Arabic astronomers.[2] The works on mathematics and mechanical science, published in the native languages in India in 1877, numbered 89.

Bráhman medicine.

The medical science of the Bráhmans was also an independent development. Both the national astronomy and the national medicine of India derived their first impulses from the exigencies of the national worship. Observations of the heavenly bodies were required to fix the dates of the recurring festivals; anatomical knowledge took its origin in the dissection of the victim at the sacrifice, with a view to dedicating its different parts to the proper gods. The Hindus ranked their medical science as an *upa-veda*, or a supplementary revelation, under the title of Ayur-Veda, and ascribed it to the gods. But their earliest medical authorities belong to the Sútra period, or later scholastic development, of the Yájur-Veda. The specific diseases whose names occur in Pánini's Grammar, indicate that medical studies had made progress before his time (350 B.C.). The chapter on the human body in the earliest Sanskrit dictionary, the Amara-kosha (56 B.C. to 1050 A.D. ?), presupposes a systematic cultivation of the science; and

Its independent development, 4th century B.C. to 8th century A.D.

[1] Dr. Burnell has lately questioned this hitherto accepted view, and suggests that the old cave numerals of India are themselves of Greek origin.

[2] The Sanskrit *uccha* has become the *aux* (gen. *augis*) of the later translators (Reinaud, p. 525; Weber, p. 257).

the works of the great Indian physicians, Charaka and Susruta, were translated into Arabic not later than the 8th century. Unlike the astronomical treatises of the Bráhmans, the Hindu medical works never refer to the Yavanas, or Greeks, as authorities; and, with one doubtful exception, they contain no names which point to a foreign origin. The chief seat of the science was at Benares, far to the east of Greek influence in India; and Indian pharmacy employed the weights and measures of provinces still farther to the south-east, Magadha and Kalinga. Arabic medicine was founded on the translations from the Sanskrit treatises, made by command of the Kaliphs of Bagdad, 750-960 A.D. European medicine, down to the 17th century, was based upon the Arabic; and the name of the Indian physician Charaka repeatedly occurs in the Latin translations of Avicenna (Ibn Sina), Rhazes (Al Rasi), and Serapion (Ibn Serabi).

Scope of Indian medicine.

Indian medicine dealt with the whole area of the science. It described the structure of the body, its organs, ligaments, muscles, vessels, and tissues. The *materia medica* of the Hindus embraces a vast collection of drugs belonging to the mineral, vegetable, and animal kingdoms, many of which have now been adopted by European physicians. Their pharmacy contained ingenious processes of preparation, with elaborate directions for the administration and classification of medicines. Much attention was devoted to hygiene, regimen of the body, and diet.

Indian surgery.

The surgery of the ancient Indian physicians was bold and skilful. They conducted amputations, arresting the bleeding by pressure, a cup-shaped bandage, and boiling oil; practised lithotomy; performed operations in the abdomen and uterus; cured hernia, fistula, piles; set broken bones and dislocations; and were dexterous in the extraction of foreign substances from the body. A special branch of surgery was devoted to rhinoplasty, or operations for improving deformed ears and noses, and forming new ones; a useful operation in a country where mutilation formed part of the judicial system, and one which European surgeons have now borrowed. The ancient Indian surgeons also mention a cure for neuralgia, analogous to the modern cutting of the fifth nerve above the eye-brow. They devoted great care to the making of surgical instruments, and to the training of students by means of operations performed on wax spread out on a board, or on the tissues and cells of the vegetable kingdom, and upon dead animals. They were expert in midwifery, not shrinking from the most critical operations, and in the diseases

of women and children. Their practice of physic embraced the classification, causes, symptoms, and treatment of diseases, —diagnosis and prognosis. The maladies thus dealt with have been arranged into 10 classes, namely—those affecting (1) the humours; (2) the general system, including fevers; (3 to 9) the several organs and parts of the body; and (10) trivial complaints. Considerable advances were also made in veterinary science, and monographs exist on the diseases of horses and elephants.

Buddhist public hospitals.

The best era of Indian medicine was contemporary with the ascendency of Buddhism (250 B.C. to 600 A.D.), and did not long survive it. The science was studied in the chief centres of Buddhist civilisation, such as the great monastic university of Nalanda, near Gayá. The very ancient Bráhmans may have derived the rudiments of anatomy from the dissection of the sacrifice; but the public hospitals which the Buddhist princes established in every city were probably the true schools of Indian medicine. A large number of cases were collected in them for continuous observation and treatment; and they supplied opportunities for the study of disease similar to those which the Greek physicians obtained at their hospital camps around the mineral springs. Hippokrates was a priest-physician, indeed the descendant of a line of priest-physicians, practising at such a spring; and Charaka was in many ways his Indian counterpart. To the present day, works on Hindu medicine frequently commence their sections with the words, 'Charaka says.' This half-mythical authority and Susruta, furnish the types of the ancient Indian physician, and probably belong, so far as they were real personages, to about the commencement of the Christian era. Both appear as Bráhmans; Susruta being, according to tradition, the son of the sage Viswámitra (*ante*, p. 206); and Charaka, of another 'Veda-learned Muni.'

Decline of Hindu medicine.

As Buddhism passed into modern Hinduism (600-1000 A.D.), and the shackles of caste were reimposed with an iron rigour, the Bráhmans more scrupulously avoided contact with blood or morbid matter. They withdrew from the medical profession, and left it entirely in the hands of the Vaidyas, a lower caste, sprung from a Bráhman father and a mother of the Vaisya or cultivating class. These in their turn shrank more and more from touching dead bodies, and from those ancient operations on 'the carcase of a bullock,' etc., by which alone surgical skill could be acquired. The abolition of the public hospitals, on the downfall of Buddhism, must also have proved a great loss to Indian medicine. The series of Muhammadan

conquests commencing in 1000 A.D., brought in a new school of foreign physicians, who derived their knowledge from the Arabic translations of the Sanskrit medical works of the best period. These Musalmán doctors or *hakíms* monopolized the patronage of the Muhammadan princes and nobles of India. The decline of Hindu medicine went on until it has sunk into the hands of the village *kabiráj*, whose knowledge consists of jumbled fragments of the Sanskrit texts, and a by no means contemptible pharmacopœia, supplemented by spells, fasts, and quackery. While the dissection of the human body under Vesalius and Fabricius was giving birth to modern medicine in the 17th century, the best of the Hindu physicians were working upon the recollections of a long past age without any new lights. On the estáblishment of medical colleges in India by the British Government, about thirty years ago, the Muhammadan youth took advantage of them in disproportionately large numbers. But the Bráhmans and intellectual classes of the Hindus soon realized that those colleges were the doors to an honourable and a lucrative career. Having accepted the change, they strove with their characteristic industry and acuteness to place themselves at the head of it. Of the 1661 pupils now (1879) in our medical schools throughout India, 950 are Hindus and 284 are Muhammadans, while the remaining 427 include Christians, Pársís, and all others. Of three Indian youths studying medicine at the University of Edinburgh during the same year, one belonged to the Káyasth or writer caste, another to the Vaidya or hereditary physician caste, and the third was a Bráhman.[1] The number of medical works published in the native languages in India in 1877 amounted to 130.

English medical colleges in India.

Hindu art of war.

The Bráhmans regarded not only medicine, but also the arts of war, music, and architecture as *upa-vedas*, or supplementary parts of their divinely inspired knowledge. Viswámitra, the Vedic sage of royal warrior birth, who in the end attained to

[1] For monographs on this deeply interesting branch of Indian science, see the articles of Dr. E. Haas, 'Ueber die Ursprünge der Indischen Medizin, mit besonderem Bezug auf Susruta,' and 'Hippokrates und die Indische Medizin des Mittelalters,'—*Zeitschrift der Deutschen Morgenländischen Gesellschaft* for 1876, p. 617, and 1877, p. 647; the 'Indische Medicin, Karaka,' of Professor Roth in the *Zeitschrift der Deutschen Morgenländischen Gesellschaft* for 1872, p. 441; the *Review of the History of Medicine among the Asiatics*, by T. A. Wise, M.D., 2 vols., Churchill, 1867; H. H. Wilson's little essay, *Works*, iii. 269 (ed. 1864); and the excellent summary in Weber's *History of Indian Literature*, Trübner, 1878.

Bráhmanhood, was, according to tradition, the first teacher of the art of war (*dhanur-veda*). The Sanskrit epics prove that strategy had attained to the position of a recognised science before the birth of Christ, and the later Agni Purána devotes long sections to its systematic treatment.

Indian music.

The Indian art of music (*gándharva-veda*) was destined to exercise a wider influence. A regular system of notation had been worked out before the age of Pánini (350 B.C.?), and the seven notes were designated by their initial letters. This notation passed from the Bráhmans through the Persians to Arabia, and was thence introduced into European music by Guido d'Arezzo at the beginning of the 11th century.[1] Some, indeed, suppose that our modern word *gamut* comes not from the Greek letter gamma, but from the Indian *gáma* (in Prákrit; in Sanskrit, *gráma*), literally 'a musical scale.' Hindu music, after a period of excessive elaboration, sank under the Muhammadan dynasties into a state of arrested development. Of the 36 chief musicians in the time of Akbar, only 5 were Hindus. Not content with tones and semi-tones, the Indian musicians employ a more minute subdivision, together with a number of sonal modifications, which the Western ear neither recognises nor enjoys. Thus they divide the octave into 22 sub-tones, instead of the 12 semi-tones of the European scale. This is one of several fundamental differences, but it alone suffices to render Indian music barbaric to us; giving it the effect of a ballad in a minor key sung intentionally out of tune.

Its peculiarities.

Melodies which the Indian composer pronounces to be the perfection of harmony, and which have for ages touched the hearts and fired the imagination of Indian audiences, are condemned as discord by the European critic. The Hindu ear has been trained to recognise modifications of sound which the European ear refuses to take pleasure in; our ears, on the other hand, have been taught to expect harmonic combinations for which Indian music substitutes different combinations of its own. The Indian musician declines altogether to be judged by the few simple Hindu airs which the English ear can appreciate. It is, indeed, impossible to adequately represent the Indian system by the European notation; and the full range of its effects can only be produced on Indian instruments—a vast collection of sound-producers, slowly elaborated during 2000 years to suit the special requirements of Hindu

[1] Von Bohlen, *Das alte Indien*, ii. 195 (1830); Benfey's *Indien* (Ersch & Gruber's *Encyclopædie*, xvii., 1840); quoted by Weber, *Hist. Ind. Lit.*, p. 272, footnote 315 (1878).

music. The complicated structure of its musical modes (*rágs*) rests upon three separate systems, one of which consists of five, the other of six, and the other of seven notes. It preserves in a living state some of the earlier forms which puzzle the student of Greek music, side by side with the most complicated developments. Patriotic Hindus have of late endeavoured to create a musical revival upon the old Sanskrit basis. Within the past ten years, Rájá Souríndra Mohan Tagore of Calcutta has published a series of interesting works on Indian music in the English tongue, adopting as far as possible the European notation. He has organized an orchestra to illustrate the art; and presented complete collections of Hindu instruments to the Conservatoire at Paris, and to other institutions in Europe. One of the earliest subjects which the new movement took as its theme, was the celebration of the Queen of England and her ancestors, in a Sanskrit volume entitled the Victoria-Gítika (Calcutta, 1875). No Englishman has yet brought an adequate acquaintance with the *technique* of Indian instrumentation to the study of Hindu music. The art still awaits investigation by some eminent Western professor; and the contempt with which Europeans in India regard it merely proves their ignorance of the system on which Hindu music is built up.

Revival of Hindu music.

Indian architecture.

Indian architecture (*artha-sástra*),[1] although also ranked as an *upa-veda* or supplementary part of inspired learning, owes its development to Buddhist rather than to Bráhmanical impulses. A brick altar sufficed for the Vedic ritual. The Buddhists were the great stone-builders of India. Their monasteries and shrines exhibit the history of the art during twenty-two centuries, from the earliest cave structures and rock-temples, to the latest Jain erections, dazzling in stucco and overcrowded with ornament. It seems not improbable that the churches of Europe owe their steeples to the Buddhist topes. The Greco-Bactrian kingdom profoundly influenced architecture and sculpture in Northern India; the Musalmán conquerors brought in new forms and requirements of their own. Nevertheless, Hindu art powerfully asserted itself in the imperial works of the Mughals, and has left behind memorials which extort the admiration and astonishment of our age. The Hindu builders derived from the Muhammadans a lightness of structure which they did not formerly possess. The palace-architecture of Gwalior, the mosques and mausoleums of Agra and Delhi, with several of the older

[1] Specifically, *nirmána-silpam*, or *nirmána-vidyá*.

temples of Southern India, stand unrivalled for grace of outline and elaborate wealth of ornament. The Táj-Mahál (*see* AGRA) justifies Heber's exclamation, that its builders had designed like Titans, and finished like jewellers. The open-carved marble windows and screens at Ahmedábád, etc. supply examples of the skilful ornamentation which beautifies every Indian building from the cave monasteries of the Buddhist period downward. English decorative art in our day has borrowed largely from Indian forms and patterns. The exquisite scrolls of the rock-temples at Karli and Ajanta, the delicate marble tracery and flat wood-carving of Western India, the harmonious blending of forms and colours in the fabrics of Kashmír, have contributed to the restoration of taste in England. Indian art-work, when faithful to native designs, has obtained the highest honours at the various international exhibitions of Europe. In pictorial art, the Hindus never made much progress, except in miniature-painting, for which perspective is not required. But some of the book-illustrations, executed in India under Persian impulses, are full of spirit and beauty. The Royal library at Windsor contains the finest existing examples in this by-path of art,—a noble manuscript of the *Sháh Jahán Námah*, purchased in Oudh for £1200 in the last century, and now in possession of Her Majesty, will amply repay a visit. The specimens at the South Kensington Museum do not adequately represent that branch of Indian painting. But they are almost everything that could be desired as regards Indian design, even including Persian bookbinding, and several of the minor formative arts.

Indian painting.

While the Bráhmans claimed religion, theology, and philosophy as their special domain, and the chief sciences and arts as supplementary sections of their divinely inspired knowledge, they secured their social supremacy by codes of law. Their earliest Dharma-sástras, or legal treatises, belong to the Grihya-Sútra period, a scholastic outgrowth from the Veda. But their two great digests, upon which the fabric of Hindu jurisprudence has been built up, are of later date. The first of these, the code of Manu, is separated from the Vedic era by a series of Bráhmanical developments, of which we possess only a few of the intermediate links. It is a compilation of the customary law, current probably about the 5th century B.C., and exhibits the social organization which the Bráhmans, after their successful struggle for the supremacy, had established in the Middle Land of Bengal. The Bráhmans, indeed, claimed for their laws a divine origin, and ascribed them to the first Manu, or Aryan

Bráhman law.

Grihyá-Sútras, 700 B.C. (?).

The code of Manu, 5th century B.C. (?).

man, 30 millions of years ago. But as a matter of fact, the laws of Manu are the result of a series of attempts to codify the usages of some not very extensive centre of Bráhmanism in Northern India,—a metrical digest of local customs condensed by degrees from a legendary mass of 100,000 couplets (*slokas*) into 2684. They may possibly have been reduced to their final form of a written code with a view to securing the system of caste against the popular movement of Buddhism, and to thus giving a rigid fixity to the privileges of the Bráhmans.

Code of Yájnavalkya.

The second great code of the Hindus, that of Yájnavalkya, belongs to a period when Buddhism had established itself, and probably to a territory where it was beginning to succumb to the Bráhmanical reaction. It represents the Bráhmanical side of the great controversy (although a section of it deals with the organization of Buddhist monasteries), refers to the execution of deeds on metal plates, and altogether marks an advance in legal precision. It was compiled apparently not earlier than the 2nd century A.D., and certainly not later than the 6th or 7th.

2nd to 6th century.

Scope of Hindu law.

These codes deal with Hindu law in three branches, namely—(1) domestic and civil rights and duties; (2) the administration of justice; (3) purification and penance. They stereotyped the unwritten usages which regulated the family life and social organization of the old Aryan communities in the Middle Land. They did not pretend to supply a body of law for all the numerous races of India, but only for Hindu communities of the Bráhmanical type. It is doubtful whether they quite accurately represented the actual customary law even in such communities, for they were apparently drawn up with a view to asserting and maintaining the special privileges of the Bráhmans. This they effect by a rigid demarcation of the employments of the people, each caste or division of a caste having its own hereditary occupation assigned to it; by stringent rules against the intermingling of the castes in marriage; by forbidding the higher castes, under severe penalties, to eat or drink or hold social intercourse with the lower; and by punishing the lower castes with still more cruel penances, for defiling by their touch the higher castes, or in any way infringing their privileges. They exhibit the Hindu community in the four ancient divisions of priests, warriors, cultivators, and serfs (*súdras*). But they disclose that this old Aryan classification failed to represent the actual facts even of the Aryan communities in Northern India. They admit that the mass of the people did not belong to any

Its rigid caste system.

one of the four castes, and very inadequately ascribe it to mixed concubinage or illicit connections. The ancient Bráhmanical communities in Northern India, as revealed by the codes, consisted — First, of an Aryan element divided into priests, warriors, and cultivators, all of whom bore the proud title of the Twice-Born, and wore the sacred thread. Second, of the subjugated races, 'the once-born' Súdras. Third, of a vast residue of the Varna-sankara, literally the 'mingled colours,' a great but uncertain number of castes to whom was assigned a mixed descent from the four recognised classes. The Census of 1871 proved that the same division remains the fundamental one to this day. The actual division of the people.

As the Bráhmans spread their influence eastwards and southwards from the Middle Land of Bengal, they carried their codes with them. The number of their sacred law-books (Dharma-sástras) amounted to at least fifty-six, and separate schools of Hindu law sprang up. Thus the Dáyabhága version of the Law of Inheritance prevails in Bengal, while the Mitákshará commentary on Yájnavalkya is current in Madras and throughout Southern and Western India. But all modern recensions of Hindu law rest upon the two ancient codes; and these codes, as we have seen, only recorded the usages of certain Bráhmanical centres in the north, and perhaps did not fairly record even them. As the Bráhmans gradually moulded the population of India into Hinduism, such codes proved too narrow a basis for dealing with the rights, duties, and social organization of the people. The later Hindu legislators accordingly inculcated the recognition of the local usages or land-law of each part of the country, and of each class or tribe. While binding together and preserving the historical unity of the Aryan twice-born castes by systems of law founded on their ancient codes, they made provision for the customs and diverse stages of civilisation of the ruder peoples of India, over whom they established their ascendency. By such provisions, alike in religion and law, the Bráhmans incorporated the Indian races into that loosely coherent mass known as the Hindu population. Growth of Hindu law. Based on customary law.

It is to this plastic element that Hinduism owes its success; and it is an element which English administrators have sometimes overlooked. The races of British India exhibit many stages of domestic institutions, from the polyandry of the Nairs to the polygamy of the Kulin Bráhmans. The structure of their rural organization varies, from the nomadic husbandry of the hillmen, to the long chain of tenures which Plasticity of Hinduism.

in Bengal stretches from the landlord through a series of middle-men to the actual tiller of the soil. Every stage in industrial progress is represented; from the hunting tribes of the central plateau to the rigid trade-guilds of Guzerat. The Hindu legislators recognised that each of these diverse stages of social development had its own usages and unwritten law. Vrihaspati says, 'The laws (*dharma*) practised by the various countries, castes, and tribes, they are to be preserved; otherwise the people are agitated.' Devala says, 'What gods there are in any country, . . . and whatsoever be the custom and law anywhere, they are not to be despised there; the law there is such.' Varáhamihira says, 'The custom of the country is first to be considered; what is the rule in each country, that is to be done.' The most learned English judge in Southern India thus sums up: 'By custom only can the Dharma-sástra [Hindu law] be the rule of others than Bráhmans [only one-thirtieth of the population of Madras], and even in the case of Bráhmans it is very often superseded by custom.'[1]

Its incorporation of local customs.

Perils of modern codification.

The English, on assuming the government of India, wisely declared that they would administer justice according to the customs of the people. But our High Courts enforce the Bráhmanical codes with a comprehensiveness and precision unknown in ancient India. Thus in Bengal, the custom of *sagai*, by which deserted or divorced wives among the lower castes marry again, was lately tried according to 'the spirit of Hindu law;' while in Madras, judges have pointed out a serious divergence between the Hindu law as now administered, and the actual usages of the people. Those usages are unwritten and uncertain. The Hindu law is printed in many accessible forms; and Hindu barristers are ever pressing its principles upon our courts. Efforts at comprehensive codification in British India are thus surrounded by special difficulties. For it would be improper to give the fixity of a code to all the unwritten half-fluid usages current among the 300 unhomogeneous castes of Hindus; while it might be fraught with future injustice to exclude any of them. Each age has the gift of adjusting its institutions to its actual wants, especially among tribes whose customs have not been reduced to written law. Many of those customs will, if left to themselves, die out; others of them, which prove suited to the new

[1] Dr. Burnell's *Dáya-vibhágha*, Introd. p. xv. — See also *Hindu Law as Administered by the High Court of Judicature at Madras*, by J. Nelson, M.A., District Judge of Cuddapa, chaps. iii. and iv. (Madras, 1877). Especially *Journal Roy. As. Soc.*, pp. 208-236 (April 1881).

social developments under British rule, will live. A code should stereotype the survival of the fittest; but the process of natural selection must be, to some extent, the work of time, and not an act of conscious legislation. This has been recognised by the ablest of Anglo-Indian codifiers. They restrict the word code to the systematic arrangement of the rules relating to some well-marked section of juristic rights, or to some executive department of the administration of justice. 'In its larger sense,' write the Indian Law Commissioners in 1879, 'of a general assemblage of all the laws of a community, no attempt has yet been made in this country to satisfy the conception of a code. The time for its realization has manifestly not arrived.' The number of works on Law, published in the native languages in India in 1877, was 165.

Secular literature of the Hindus.

The Bráhmans were not merely the depositaries of the sacred books, the philosophy, the science, and the laws of the ancient Hindu commonwealth; they were also the creators and custodians of its secular literature. They had a practical monopoly of Vedic learning, and their policy was to trace back every branch of knowledge and of intellectual effort to the Veda. In this policy they were aided by the divergence which, as we have seen, arose at a very early date between the written and spoken languages of India. Sanskrit literature, apart from religion, philosophy, and law, consists mainly of two great epics, the drama, and a vast body of legendary, erotic, and mystical poetry.

Its chief branches.

The Mahábhárata;

The venerable epic of the Mahábhárata ranks first. The orthodox legend ascribes it to the sage Vyása, who, according to Bráhman chronology, compiled the inspired hymns into the four Vedas, nearly five thousand years ago (3001 B.C.). But one beauty of Sanskrit is that every word discloses its ancient origin in spite of mediæval fictions, and Vyása means simply the 'arranger,' from the verb 'to fit together.' No fewer than twenty-eight Vyásas, incarnations of Brahma and Vishnu, came down in successive astronomical eras to arrange and promulgate the Vedas on earth. Many of the legends in the Mahábhárata are of Vedic antiquity, and the main story deals with a period assigned, in the absence of any conclusive evidence, to about 1200 B.C.; and certainly long anterior to the time of Buddha, 543 B.C. But its compilation into its present literary form seems to have taken place several centuries later. Pánini makes no clear allusion to it (350 B.C.). The inquisitive Greek ambassador and historian, Megasthenes, does not appear to have heard of it

Its date;

during his stay in India, 300 B.C. Dion Chrysostomos supplies the earliest external evidence of the existence of the Mahábhárata, *circ.* 75 A.D. The arrangement of its vast mass of legends must probably have covered a long period. Indeed, the present poem bears traces of three separate eras of compilation; during which its collection of primitive folk-tales grew (as stated by itself) from 8800 *slokas* or couplets, into a cyclopædia of Indian mythology and legendary lore extending over eighteen books and 220,000 lines. The twenty-four books of Homer's Iliad comprise only 15,693 lines; and the twelve books of Virgil's Æneid, only 9868.

Its growth.

Central story of the Mahábhárata.

The central story of the Mahábhárata occupies scarcely one-fourth of the whole, or about 50,000 lines. It narrates a prehistoric struggle between two families of the Lunar race for a patch of country near Delhi. These families, alike descended from the royal Bharata, consisted of two brotherhoods, cousins to each other, and both brought up under the same roof. The five Pándavas were the miraculously born sons of King Pándu, who, smitten by a curse, resigned the sovereignty to his brother Dhrita-ráshtra, and retired to a hermitage in the Himálayas, where he died. The ruins of his capital, Hastinápura, or the 'Elephant City,' are pointed out beside a deserted bed of the Ganges, 57 miles north-east of Delhi, at this day. His brother ruled in his stead, and to him one hundred sons were born, who took the name of the Kauravas from an ancestor, Kuru. Dhrita-ráshtra acted as a faithful guardian to his five nephews, the Pándavas, and chose the eldest of them as heir to the family kingdom. His own sons resented this act of supercession; and so arose the quarrel between the hundred Kauravas and the five Pándavas which forms the main story of the Mahábhárata.

Its outline.

The hundred Kauravas forced their father to send away their cousins into the forest, and there they treacherously burned down the hut in which the five Pándavas dwelt. The latter escaped, and wandered in the disguise of Bráhmans to the court of King Draupada, who had proclaimed a *swayamvara*, or maiden's-choice, at which his daughter would take the victor as her husband. Arjuna, one of the Pándavas, bent the mighty bow which had defied the strength of all the rival chiefs, and so obtained the fair princess, Draupadí, who became the common wife of the five brethren. Their uncle, the good Dhrita-ráshtra, recalled them to his capital, and gave them one-half of the family territory, reserving the other half for his own sons. The Pándava brethren hived off to a new settlement,

Indra-prastha, afterwards Delhi; clearing the jungle, and driving out the Nágas or forest-races. For a time peace reigned; but the Kauravas tempted Yudishthira, 'firm in fight,' the eldest of the Pándavas, to a gambling match, at which he lost his kingdom, his brothers, himself, and last of all, his wife. Their father, however, forced his sons to restore their wicked gains to their cousins. But Yudishthira was again seduced by the Kauravas to stake his kingdom at dice, again lost it, and had to retire with his wife and brethren into exile for twelve years. Their banishment ended, the five Pándavas returned at the head of an army to win back their kingdom. Many battles followed, gods and divine heroes joining in the struggle, until at last all the hundred Kauravas were slain, and of the friends and kindred of the Pándavas only the five brethren remained.

Final overthrow of the 100 Kauravas.

Their uncle, Dhrita-ráshtra, made over to them the whole kingdom; and for a long time the Pándavas ruled gloriously, celebrating the *aswa-medha*, or 'great horse sacrifice,' in token of their holding imperial sway. But their uncle, old and blind, ever taunted them with the slaughter of his hundred sons, until at last he crept away with his few surviving ministers, his aged wife, and his sister-in-law, the mother of the Pándavas, to a hermitage, where the worn-out band perished in a forest fire. The five brethren, smitten by remorse, gave up their kingdom; and taking their wife, Draupadí, and a faithful dog, they departed to the Himálayas to seek the heaven of Indra on Mount Meru. One by one the sorrowful pilgrims died upon the road, until only the eldest brother, Yudishthira, and the dog reached the gate of heaven. Indra invited him to enter, but he refused if his lost wife and brethren were not also admitted. The prayer was granted, but he still declined unless his faithful dog might come in with him. This could not be allowed, and Yudishthira, after a glimpse of heaven, was thrust down to hell, where he found many of his old comrades in anguish. He resolved to share their sufferings rather than to enjoy paradise alone. But having triumphed in this crowning trial, the whole scene was revealed to be *máyá* or illusion, and the reunited band entered into heaven, where they rest for ever with Indra.

Reign of the five Pándavas.

Their pilgrimage to heaven.

Even this story, which forms merely the nucleus of the Mahábhárata, is evidently the growth of far distant ages. For example, the two last books, the 17th and 18th, which narrate 'the Great Journey' and 'the Ascent to Heaven,' are the product of a very different epoch of thought from the early

Slow growth of the central story.

ones, which portray the actual life of courts and camps in ancient India. The *swayam-vara* or husband-choosing of Draupadí is a genuine relic of the warrior-age of the Aryans in Hindustán. Her position as the common wife of the five brethren preserves a trace of even more primitive institutions —institutions still represented by the polyandry of the Nairs and other hill races, and by domestic customs which are survivals of polyandry among the Hinduized low-castes all over India. Thus, in the Punjab, among Ját families too poor to bear the marriage expenses of all the males, the wife of the eldest son has sometimes to accept her brothers-in-law as joint husbands. The polyandry of the Ghakkars, the brave people of Ráwal Pindi District, was one of their characteristics which specially struck the advancing Muhammadans in 1008 A.D.[1] The Kárakat Vellálars of Madura, at the opposite extremity of the peninsula, no longer practise polyandry; but they preserve a trace of it in their condonement of cohabitation with the husband's kindred, while adultery outside the husband's family entails expulsion from caste. Such customs became abhorrent at an early period to the Bráhmans; and they have justified Draupadí's position, on the ground that as the five Pándava brethren were divinely begotten emanations from one deity, they formed in reality only one person, and could be lawfully married to the same woman. No such afterthought was required to uphold the honour of Draupadí in the age when the legend took its rise. Throughout the whole Mahábhárata she figures as the type of a high-born princess, and a chaste, brave, and faithful wife. She shares in every sorrow and triumph of the five brethren; bears a son to each; and finally enters with the true-hearted band into the glory of Indra. Her husbands take a terrible vengeance on any insult offered to her, and seem quite unaware that a later age would deem her position one which required explanation.[2]

The polyandry of Draupadí.

The rest of the Mahábhárata.

The struggle for the kingdom of Hastinápur forms, however, only a fourth of the Mahábhárata. The remainder consists of later additions; some of them are legends of the early Aryan settlements in the Middle Land, tacked on to the central story; others are mythological episodes, theological

[1] See *post*, p. 277.

[2] The beautiful story of Sávitrí, the wife faithful to the end, is told in the Mahábhárata by the sage Márkandeya in answer to Yudishthira's question, whether any woman so true and noble as Draupadí had ever been known. Sávitrí dogged the steps of Yama, King of Death, until she wrung from him, one by one, many blessings for her family, and finally the restoration of her husband to life.

discourses, and philosophic disquisitions, intended to teach the military caste its duties, especially its duty of reverence to the Bráhmans. Taken as a whole, the Mahábhárata may be said to form the cyclopædia of the Heroic Age in Northern India, with the struggle of the Pándavas and Kauravas as its original nucleus; and the submission of the military power to priestly domination as its later and didactic design.

The Rámáyana.

The second great Indian epic, the Rámáyana, recounts the advance of the Aryans into Southern India. Unlike the Mahábhárata, its composition is assigned not to a compiler (*vyása*) in the abstract, but to a named poet, Válmíki. On the other hand, the personages and episodes of the Rámáyana have an abstract or mythological character, which contrasts with the matter-of-fact stories of the Mahábhárata. The heroine of the Rámáyana, Sítá, is literally the 'field-furrow,' to whom the Vedic hymns and early Aryan ritual paid divine honour. She represents Aryan husbandry, and has to be defended against the raids of the aborigines by the hero Ráma, an incarnation of the Aryan deity Vishnu, born of his divine nectar, and regarded by Weber as originally identical with Balaráma, the 'Ploughbearer' (*halabhrit*). The abduction of Sítá by an aboriginal or demon prince, her recovery by Ráma, and the advance of the Aryans into Southern India, form the main story of the Rámáyana. It differs therefore from the central legend of the Mahábhárata, as commemorating a period when the main arena of Aryan enterprise had extended itself far beyond their ancient settlements around Delhi; and as a product of the Bráhman tendency to substitute abstract personifications for human actors and mundane events. The nucleus of the Mahábhárata is a legend of ancient life; the nucleus of the Rámáyana is an allegory. Its most modern form, the Adhyátma Rámáyana, still further spiritualizes the story, and elevates Ráma into a saviour and deliverer, a god rather than a hero.

Its allegorical character.

Válmíki.

Its reputed author, Válmíki, forms the central literary figure in the epic, as well as its composer. He takes part in the action of the poem, receives the hero Ráma in his hermitage, and afterwards gives shelter to the unjustly banished Sítá and her twin sons, nourishing the aspirations of the youths by tales of their father's prowess. These stories make up the main part of the Rámáyana, and refer to a period which has been loosely assigned to about 1000 B.C., although the poem could not have been put together in its present shape many centuries before the birth of Christ. Parts of it may be

earlier than the Mahábhárata, but the compilation as a whole apparently belongs to a later date. The Rámáyana consists of seven books (*Kándas*) and 24,000 *slokas*, or about 48,000 lines.

Outline of the Rámáyana.

As the Mahábhárata celebrates the lunar race of Delhi, so the Rámáyana forms the epic chronicle of the solar race of Ajodhya or Oudh. The two poems thus preserve the legends of two renowned Aryan kingdoms at the two opposite, or eastern and western, borders of the Middle Land (Madhya-desa). The opening books of the Rámáyana recount the wondrous birth and boyhood of Ráma, eldest son of Dasa-ratha, King of Ajodhya; his marriage with Sítá, as victor at her *swayam-vara*, by bending the mighty bow of Siva in the public contest of chiefs for the princess; and his selection as heir-apparent (or Juva-rájá) to his father's kingdom. A *zanána* intrigue ends in the youngest wife of Dasa-ratha obtaining this appointment for her own son, Bharata, and in the exile of Ráma, with his bride Sítá, for fourteen years to the forest. The exiled pair wander south to Allahábád, already a place of sanctity, and thence across the river to the hermitage of Válmíki, among the Bánda jungles of Bundelkhand, where a hill is still pointed out as the scene of their abode. Meanwhile Ráma's father dies, and the loyal youngest brother, Bharata, although the lawful successor, refuses to enter on the inheritance, and goes in quest of Ráma to bring him back as rightful heir. A contest of fraternal affection takes place; Bharata at length returning to rule the family kingdom in the name of Ráma, until the latter should come to claim it at the end of his fourteen years of banishment.

The local legend.

The abduction of Sítá.

So far, the Rámáyana merely narrates the local chronicles of the court of Ajodhya. In the third book the main story begins. Rávana, the demon or aboriginal king of the far south, smitten by the fame of Sítá's beauty, seizes her at the hermitage while her husband is away in the jungle, and flies off with her in a magic chariot through the air to Ceylon. The next three books (4th, 5th, and 6th) recount the expedition of the bereaved Ráma for her recovery. He makes alliances with the aboriginal tribes of Southern India, under the names of monkeys and bears, and raises a great army. The Monkey general, Hanumán, jumps across the straits between India and Ceylon, discovers the princess in captivity, and leaps back with the news to Ráma. The monkey troops then build a causeway across the narrow sea,—the Adam's Bridge of modern geography,—by which Ráma marches across and, after slaying the monster Rávana, delivers Sítá. The rescued wife proves

Her rescue.

her unbroken chastity, during her stay in the palace of Rávana, by the ancient ordeal of fire. Agni, the god of that element, himself conducted her out of the burning pile to her husband; and, the fourteen years of banishment being over, Ráma and Sítá return in triumph to Ajodhya. There they reigned gloriously; and Ráma celebrated the great horse sacrifice (*aswa-medha*) as a token of his imperial sway over India. But a famine having smitten the land, doubts arose in Ráma's heart as to his wife's purity while in her captor's power at Ceylon. He banishes the faithful Sítá, who wanders forth again to Válmíki's hermitage, where she gives birth to Ráma's two sons. After sixteen years of exile, she is reconciled to her repentant husband, and Ráma and Sítá and their children are at last reunited.

Later Sanskrit epics.

The Mahábhárata and the Rámáyana, however overlaid with fable, form the chronicles of the kings of the Middle Land (Madhya-desa), their family feuds, and their national enterprises. In the later Sanskrit epics, the legendary element is more and more overpowered by the mythological. Among them the Raghu-vansa and the Kumára-sambhava, both assigned to Kálidása, take the first rank. The Raghu-vansa celebrates the solar line of Raghu, King of Ajodhya, more particularly the ancestry and the life of his descendant Ráma. The Kumára-sambhava recounts the birth of the war-god.[1] It is still more didactic and allegorical, abounding in sentiment and in feats of prosody, but nevertheless containing passages of much beauty of style and grace of thought. From the astrological data which these two poems furnish, Jacobi arrives at the conclusion that they cannot have been composed before 350 A.D.

Raghu-vansa.

Kumára-sambhava.

Kálidása.

The name of Kálidása has come down, not only as the composer of these two later epics, but as the father of the Sanskrit drama. According to Hindu tradition, he was one of the 'Nine Gems' or distinguished men at the court of Vikramáditya, King of Ujjain, who has given his name to the *Samvat* era, commencing in 56 or 57 B.C. But, as Holtzmann points out, it may be almost as dangerous to infer from this latter circumstance that Vikramáditya lived in 57 B.C., as to place Julius Cæsar in the first year of the so-called Julian Calendar, namely 4713 B.C. Several Vikramádityas figure in Indian history; indeed, the name is a title, 'A very Sun in

King Vikramáditya.

[1] Translated into spirited English verse by Mr. Ralph T. H. Griffith, M.A., who is also the author of a charming collection of 'Idylls from the Sanskrit,' based on the Mahábhárata, Rámáyana, Raghu-vansa, and Kálidása's Seasons.

Prowess,' which has been borne by victorious monarchs of many of the Indian dynasties. The date of Vikramáditya has been variously assigned from 57 B.C. to 1050 A.D.; and the works of the poets and philosophers who formed the 'Nine Gems' of his court, appear from internal evidence to have been composed at intervals during that long period.

Age of the Sanskrit drama.

In India, as in Greece and Rome, scenic representations seem to have taken their rise in the rude pantomime of a very early time, possibly as far back as the Vedic ritual; and the Sanskrit word for the drama, *nataka*, is derived from *náta*, a dancer. But the Sanskrit dramas of the classical age which have come down to us, probably belong to the period between the 1st century B.C. and the 8th century A.D. They make mention of Greek slaves, are acquainted with Buddhism in its full development, and disclose a wide divergence between Sanskrit and the dialects used by the lower classes. The Mahábhárata and Rámáyana appear in the drama as part of the popular literature,—in fact, as occupying very much the same position which they still hold. No dramas are yet known to exist among the works which the Hindus who emigrated to Java, about 500 A.D., carried with them to their new homes, nor among the Tibetan translations of the Sanskrit classics.

Sakuntalá.

The most famous drama of Kálidása is Sakuntalá, or the 'Lost Ring.' Like the ancient epics, it divides its action between the court of the king and the hermitage in the forest. Prince Dushyanta, an ancestor of the noble Lunar race, weds by an irregular marriage a beautiful Bráhman girl, Sakuntalá, at her father's retreat in the jungle. Before returning to his capital, he gives his bride a ring as a pledge of his love; but smitten by a curse from a Bráhman, she loses the ring, and cannot be recognised by her husband till it is found. Sakuntalá bears a son in her loneliness, and sets out to claim recognition for herself and child at her husband's court. But she is as one unknown to the prince, till, after many sorrows and trials, the ring comes to light. She is then happily reunited with her husband, and her son grows up to be the noble Bharata, the chief founder of the Lunar dynasty whose achievements form the theme of the Mahábhárata. Sakuntalá, like Sítá, is the type of the chaste and faithful Hindu wife; and her love and sorrow, after forming the favourite romance of the Indian people for perhaps eighteen hundred years, have furnished a theme for the great European poet of our age. 'Wouldst thou,' says Goethe—

'Wouldst thou the young year's blossoms, and the fruits of its decline,
And all by which the soul is charmed, enraptured, feasted, fed,—
Wouldst thou the earth and heaven itself in one sole name combine?
I name thee, O Sakuntalá! and all at once is said.'

Other dramas.

Sakuntalá has had the good fortune to be translated by Sir William Jones (1789), and to be sung by Goethe. But other of the Hindu dramas and domestic poems are of almost equal interest and beauty. As examples of the classical period, may be taken the Mrichchhakatí, or 'Toy Cart,' a drama in ten acts, on the old theme of the innocent cleared and the guilty punished; and the poem of Nala and Damayantí, or the 'Royal Gambler and the Faithful Wife.' Such plays and poems frequently take an episode of the Mahábhárata or Rámáyana for their subject; and in this way the main incidents in the two great epics have been gradually dramatized or reduced to the still more popular form of household song. The drama was one of the first branches of Hindu literature to heartily accept the spoken dialects; and the native theatre forms the best, indeed the only, school in which an Englishman can acquaint himself with the in-door life of the people. In our own day, there has been a great dramatic revival in India: new plays in the vernacular tongues constantly issue from the press; and societies of patriotic young natives form themselves into dramatic companies, especially in Calcutta and Bombay. Many of the pieces are vernacular renderings of stories from the Sanskrit epics and classical dramas. Several have a political significance, and deal with the phases of development upon which India has entered under the influence of British rule. One Bengáli play, the Nil-darpan,[1] or the 'Indigo Factory,' became the subject of a celebrated trial in Calcutta; while others—such as *Ekei ki bale Sabhyatá?* 'Is this what you call civilisation?'—suggest many serious thoughts to a candid English mind. In 1877, the last year for which I have the official returns, 102 dramas were published in India in the native tongues.

The Hindu novel.

Closely allied to the drama is the prose romance. In 1823, Dr. H. H. Wilson intimated that Hindu literature contained collections of domestic narrative to an extent surpassing those of any other people. The vast growth of European fiction since that date renders this statement no longer accurate. But

[1] Literally, 'The Mirror of Indigo.' Since writing the above, nine Bengáli plays have reached me from Calcutta; and such works, in the various vernaculars, figure largely in the annual lists of printed books registered in each of the Indian Presidencies or Provinces.

Beast-stories.

Wilson's translations from the Vrihat-kathá will still be read with interest,[1] and the Sanskrit Beast-stories now occupy an even more significant place in the history of Indo-European literature than they did then. The fables of animals familiar to the western world, from the time of Æsop downwards, had their original home in India. The relation between the fox and the lion in the Greek versions has no reality in nature; but it was based upon the actual relation between the lion and his follower the jackal, in the Sanskrit stories.[2] Weber thinks that complete cycles of Indian fables may have existed in the time of Pánini (350 B.C.?). It is known that the Sanskrit Panchatantra, or Book of Beast Tales, was translated into the ancient Persian as early as the 6th century A.D., and from that rendering all the subsequent versions in Asia Minor and Europe have been derived. The most ancient animal fables of India are at the present day the nursery stories of England and America. The graceful Hindu imagination delighted also in fairy tales; and the Sanskrit compositions of this class are the original source of many of the fairy stories of Persia, Arabia, and Christendom. The works of fiction published in the native languages in India in 1877 numbered 196.

Sanskrit lyric poetry.

In mediæval India, a large body of poetry, half-religious, half-amorous, grew up around the legend of the youthful Krishna (the eighth incarnation of Vishnu) and his loves with the shepherdesses, the playmates of his sweet pastoral life. Kálidása, according to Hindu tradition, was the father of the erotic lyric, as well as a great dramatic and epic poet. In his Megha-dúta, or 'Cloud Messenger,' an exile sends a message by a wind-borne cloud to his love, and the countries beneath its long aerial route are made to pass like a panorama before the reader's eye. The Gita Govinda, or Divine Herdsman of Jayadeva, is a Sanskrit 'Song of Solomon,' not earlier than the 12th century A.D. A festival once a year celebrates the birthplace of this mystical love-poet, in the Birbhúm District of Lower Bengal; and many less famous compositions of the same class now issue from the vernacular press throughout India. In 1877, no fewer than 697 works of poetry were published in the native languages in India.

[1] *Oriental Quarterly Magazine*, Calcutta, March 1824, pp. 63-77. Also vol. iii. of Wilson's Collected Works, pp. 156-268. London, 1864.

[2] See, however, Weber's elaborate footnote, No. 221, for the other view, *Hist. Ind. Lit.*, p. 211. Max Müller's charming essay on the Migration of Fables (*Chips*, vol. iv. pp. 145-209, 1875) traces the actual stages of a well-known story from the East to the West.

The Puránas, 8th to 16th century A.D.

The mediæval Bráhmans displayed a marvellous activity in theological as well as in lyric poetry. The Puránas, literally 'The Ancient Writings,' form a collection of religious and philosophical treatises in verse, of which the principal ones number eighteen. The whole Puránas are said to contain 1,600,000 lines. The really old ones have either been lost or been incorporated in new compilations; and the composition of the existing Puránas probably took place from the 8th to the 16th century A.D. As the epics sang the wars of the Aryan heroes, so the Puránas recount the deeds of the Bráhman gods. They deal with the creation of the universe; its successive dissolutions and reconstructions; the stories of the deities and their incarnations; the reigns of the divine Manus; and the chronicles of the Solar and Lunar lines of kings who ruled, the former in the east and the latter in the west of the Middle Land (Madhya-desha). The Puránas belong to the period when the Hindus had split up into their two existing divisions, as worshippers of Vishnu or of Siva. They devote themselves to the glorification of one or other of these two rival gods, and thus embody the sectarian theology of Bráhmanism. While claiming to be founded on Vedic inspiration, they practically superseded the Veda, and have formed during ten centuries the sacred literature on which Hinduism rests.

Contents of the Puránas.

Their influence.

An idea of the literary activity of the Indian mind at the present day may be formed from the fact, that 4890 works were published in India in 1877, of which 4346 were in the native languages. Only 436 were translations, the remaining 4454 being original works or new editions.

Indian works published in 1877.

In order to understand the long domination of the Bráhmans, and the influence which they still wield, it is necessary ever to keep in mind their position as the great literary caste. Their priestly supremacy has been repeatedly assailed, and was during a space of nearly a thousand years overthrown. But throughout twenty-two centuries they have been the counsellors of Hindu princes and the teachers of the Hindu people. They represent the early Aryan civilisation of India; and the essential history of the Hindus is a narrative of the attacks upon the continuity of that civilisation,—that is to say, of attacks upon the Bráhmanical system of the Middle Land, and of the modifications and compromises to which that system has had to submit. Those attacks range themselves under six epochs. First, the religious uprising of the half-Bráhmanized Aryan tribes on the east of the Middle Land, initiated by the preaching of Buddha

The essentials of Indian history.

The six attacks from without on Bráhmanism, 6th century B.C. to 19th century A.D.

1. Buddhism. in the 6th century B.C., culminating in the Buddhist kingdoms about the commencement of our era, and melting into modern 2. Greeks. Hinduism about the 8th century A.D. Second, warlike inroads of non-Bráhmanical Aryans or other races from the west, commencing with the Greek invasions in the 4th century B.C., and continuing under the Greco-Bactrian empire and its successors 3. Non-Aryan tribes. to probably the 3rd or 5th century A.D. Third, the influence of the non-Aryan tribes of India and of the non-Aryan low-castes incorporated from them; an influence ever at work—indeed by far the most powerful agent in dissolving Bráhmanism into Hinduism, but represented in a special manner by the non-Aryan kingdoms about the 7th and 8th centuries A.D. 4. Hindu sects. Fourth, the reaction against the low beliefs, priestly oppression, and bloody rites which resulted from this compromise between Bráhmanism and aboriginal worship. The reaction received an impetus from the preaching of Sankar Achárja, who founded the great Sivaite sect about 700 A.D. It obtained its full development under a line of great Vishnuvite reformers from 5. Muhammadans. the 12th to the 16th centuries A.D. Fifth, Muhammadan 6. English. invasions and the rule of Islám, 1000 to 1765 A.D. Sixth, the English supremacy, and the popular upheaval which it has produced in the 18th and 19th centuries.

Buddhism. The first great solvent of Bráhmanism was the teaching of Gautama Buddha. The life of this celebrated man has three sides,—its personal aspects, its legendary developments, and its religious consequences upon mankind. In his own person, Buddha appears as a prince and preacher of ancient India. In the legendary developments of his story, Buddha ranks as a divine teacher among his followers, as an incarnation of Vishnu among the Hindus, and apparently as a saint of the Christian church, with a day assigned to him in both the Greek and Roman calendars. As a religious founder, he left behind a system of belief which has gained more disciples than any other creed in the world; and which, after a lapse of twenty-four centuries, is now professed by 500 millions of people, or nearly one-half the human race.[1]

The story of Buddha, modelled on the epic type. The story of Buddha's earthly career is a typical one. It is based on the old Indian ideal of the noble life which we have seen depicted in the Sanskrit epics. Like the Pándavas in the Mahábhárata, and like Ráma in the Rámáyana, Buddha is the miraculously born son of a king, belonging to one of the two great Aryan lines, the Solar and Lunar; in his case, as in

[1] Such estimates are necessarily uncertain; but the following table, based

Ráma's, to the Solar. His youth, like that of the epic heroes, is spent under Bráhman tutors, and like the epic heroes he obtains a beautiful bride after a display of unexpected prowess with the bow; or, as the northern Buddhists relate, at an actual *swayam-vara*, by a contest in arms for the princess. A period of voluntary exile follows a short interval of married happiness, and Buddha retires like Ráma to a Bráhman's hermitage in the forest. The sending back of the charioteer to the bereaved father's capital forms an episode in the story of both the young princes; and as in the Rámáyana, so in the legend of Buddha, it is to the jungles on the south of the Ganges, lying between the Aryan settlements and the aboriginal races, that the royal exile repairs. After a time of seclusion, the Pándavas, Ráma, and Buddha alike emerge to achieve great conquests, the two former by force of arms, the last by the weapons of the Spirit. Up to this point the outline of the three stories has followed the same type; but henceforth it diverges. The Sanskrit epics depict the ideal Aryan man as prince, hermit, and hero. In the legend of Buddha, that ideal has developed into prince, hermit, and saint.

Buddha and Ráma.

Gautama, afterwards named Buddha, 'The Enlightened,' and Siddhártha, 'He who has fulfilled his end,' was the only son of Suddhodana, King of Kapilavastu.[1] This prince, the chief of the Sákya clan, ruled over an outlying Aryan settlement on the north-eastern border of the Middle Land, about a hundred miles to the north of Benares, and within sight

Parentage of Gautama Buddha.

upon the Indian Census of 1872 and other materials available, is given by Mr. Rhys Davids :—

Pársís	150,000	
Síkhs	1,200,000	
Jews	7,000,000	Being about ½ per cent. of the total.
Greek Catholics . . .	75,000,000	about 6 per cent.
Roman Catholics . . .	152,000,000	,, 12 ,,
Other Christians . . .	100,000,000	,, 8 ,,
Hindus	160,000,000	,, 13 ,,
Muhammadans . . .	155,000,000	,, 12½ ,,
Buddhists . . .	500,000,000	,, 40 ,,
Not included in the above .	100,000,000	,, 8 ,,
	1,250,350,000	

[1] Identified by General Cunningham (*Anc. Geo. Ind.*, p. 415, ed. 1871) with the petty village of NAGAR-KHAS, 'the city,' in Gorakhpur District, North-Western Provinces. The birth-place is locally said to be beyond the District border. Kapila-vastu lay within the ancient kingdom of Kosala.

of the snow-topped Himálayas. A Gautama Rájput of the noble Solar line, he wished to see his son grow up on the warlike model of his race. But the young prince shunned the sports of his playmates, and retired to solitary day-dreams in nooks of the palace garden. The king tried to win his son to a practical career by marrying him to a beautiful and talented girl; and the youthful Gautama unexpectedly proved his manliness by a victory over the flower of the young Rájput chiefs at a tournament. For a while he forgot his solemn speculations on the unseen in the sweet realities of early married life. But in his drives through the city he deeply reflected on the types of old age, disease, and death which met his eye; and he was powerfully impressed by the calm of a holy man, who seemed to have raised his soul above the changes and sorrows of this world. After ten years, his wife bore to him an only son; and Gautama, fearing lest this new tie should bind him too closely to the things of earth, retired about the age of thirty to a cave among the forest-clad spurs of the Vindhyás. The story of how he turned away from the door of his wife's lamp-lit chamber, denying himself even a parting caress of his new-born babe lest he should wake the sleeping mother, and galloped off into the darkness, is one of the many tender episodes in his life. After a gloomy night ride, he sent back his one companion, the faithful charioteer, with his horse and jewels to his father. Having cut off his long Rájput locks, and exchanged his princely raiment for the rags of a poor passer-by, he went on alone a homeless beggar. This abandonment of earthly pomp and power, and of loved wife and new-born son, is the Great Renunciation which forms a favourite theme of the Buddhist scriptures in Sanskrit, Páli, and Chinese.[1] It has furnished, during twenty centuries, the type of self-sacrifice which all Indian reformers must follow if they are to win the trust of the people.

His lonely youth, *æt.* 1-19.

His married life, *æt.* 19-29.

His Great Renunciation, *æt.* 29-30.

Buddha's forest life, *æt.* 30-36.

For a time he studied under two Bráhman recluses, near RAJAGRIHA, in Patná District, learning from them that the path to divine knowledge and tranquillity of soul lies through

[1] The Mahábhinishkramana Sútra, or 'Book of the Great Renunciation,' rendered from Sanskrit into Chinese about the 6th century A.D., and reproduced in an English form by the Rev. Samuel Beale, M.A., in the *Romantic Legend of Sákya Buddha*, 1875. Different texts give the details differently; compare the account by Wong Pah, translated in Mr. Beal's *Catena of Buddhist Scriptures from the Chinese*, pp. 130-142 (Trübner, 1871). Burnouf, Barthelemy St. Hilaire, Alabaster, Bishop Bigandet, Spencer Hardy, and Rhys Davids are the authorities for the southern Buddhism of Ceylon, Burma, and Siam.

the subjection of the flesh. He then buried himself deeper in the south-eastern jungles, which at that time covered Gayá District, and during six years wasted himself by austerities in company with five disciples. The temple of BUDDH-GAYA marks the site of his long penance. But instead of earning peace of mind by fasting and self-torture, he reached a crisis of religious despair, during which the Buddhist scriptures affirm that the enemy of mankind, Mára, wrestled with him in bodily shape. Torn with doubts as to whether, after all his penance, he was not destined to perdition, the haggard ascetic, in a final paroxysm, fell senseless to the earth. When he recovered, the mental struggle had passed. He felt that the path to salvation lay not in self-torture in a mountain cave, but in preaching a higher life to his fellow-men. His five disciples, shocked by his giving up penance, forsook him; and he was left in solitude to face the question whether he alone was right and all the devout minds of his age were wrong. The Buddhist scriptures depict him as sitting serene under a fig-tree, while the great enemy and his crew whirled round him with flaming weapons. 'When the conflict began between the Saviour of the World and the Prince of Evil,' says one of their sacred texts,[1] the earth shook, the sea uprose from her bed, the rivers turned back to the mountains, the hill-tops fell crashing to the plains, the sun was darkened, and a host of headless spirits rode upon the tempest. From his temptation in the wilderness, the wasted ascetic emerged with his doubts for ever laid at rest, seeing his way clear, and henceforth to be known as Buddha, literally 'The Enlightened.'

His temptation.

His 'Enlightenment.'

This was Buddha's second birth; and the *pipal* fig or Bo, under whose spreading branches its pangs were endured, has become the sacred tree of 500 millions of mankind in the East, and is the Ficus religiosa of Western science. The idea of a second birth was familiar to the twice-born Aryan castes of ancient India, and was represented by their race-ceremony of investing the boy at the close of childhood with the sacred thread. In this, as in its other features, the story of Buddha adheres to ancient Aryan types, but gives to them a new spiritual significance. Having passed through the three prescribed stages of a saintly life,[2]—as learner, householder, and forest recluse,—he now entered on the fourth stage as a reli-

His story follows the old Aryan types.

[1] The Madhurattha-Vilásiní, *Journal of the Bengal Asiatic Society*, vol. vii. p. 812. Rhys Davids' *Buddhism*, p. 36.

[2] See *ante*, p. 209.

gious mendicant. But he developed from the old Bráhmanical model of the wandering ascetic, intent only on saving his own soul, the nobler type of the preacher, striving to bring deliverance to the souls of others.

Public teaching of Buddha, *æt.* 36.

Two months after his temptation in the wilderness, Buddha commenced his public teaching in the Deer-Forest, on the outskirts of the great city of Benares. Unlike the Bráhmans, he addressed himself, not to one or two disciples of the sacred caste, but to the mass of the people. His first converts were laymen, and among the earliest were women. After three months of ministry, he had gathered around him sixty disciples, whom he sent forth to the neighbouring countries with these words: 'Go ye now and preach the most excellent Law.' The essence of his teaching was the deliverance of man from the sins and sorrows of life by self-renunciation and inward self-control. While the sixty disciples went on their missionary tour among the populace, Buddha converted some celebrated hermits and fire-worshippers by an exposition of the philosophical side of his doctrine. With this new band he journeyed on to Rájágriha, where the king and all his subjects joined the new faith, but where also he first experienced the fickleness of the multitude. Two-thirds of each year he spent as a wandering preacher; the remaining four months of the rainy season he abode at some fixed place, often near Rájágriha, teaching the people who flocked around his little dwelling in the bamboo grove. His five old disciples, who had forsaken him in the time of his sore temptation in the wilderness, penitently rejoined their master. Princes, merchants, artificers, Bráhmans and hermits, husbandmen and serfs, noble ladies and repentant courtesans, were yearly added to those who believed. Buddha preached throughout a large part of Behar, Oudh, and the adjacent Districts in the North-Western Provinces. Monasteries marked during ages his halting-places; and the principal scenes of his life, such as AJODHYA, BUDDH-GAYA, SRAVASTI, the modern SAHET MAHET, RAJAGRIHA, etc., became the great places of pilgrimage for the Buddhist world. His visit to his aged father at Kapilavastu, whence he had gone forth as a brilliant young prince, and to which he returned as a wandering preacher, in dingy yellow robes, with shaven head and the begging bowl in his hand, is a touching episode which appeals to the heart of universal mankind. The old king heard him with reverence. The son, whom Buddha had left as a new-born babe, was converted to the faith; and his beloved wife, from the

He sends forth the Sixty.

He converts the people,

and his own family.

threshold of whose chamber he had ridden away into the darkness, became one of the first of Buddhist nuns. The Great Renunciation took place in his thirtieth year. After silent self-preparation, his public ministry commenced when he was about thirty-six, and during forty-four years he preached to the people. In prophesying his death, he said to his followers: 'Be earnest, be thoughtful, be holy. Keep stedfast watch over your own hearts. He who holds fast to the law and discipline, and faints not, he shall cross the ocean of life and make an end of sorrow.' He spent his last night in preaching, and in comforting a weeping disciple; his latest words, according to one account, were, 'Work out your salvation with diligence.' He died calmly, at the age of eighty,[1] under the shadow of a fig-tree, at Kusinagara, the modern KASIA, in Gorakhpur District.

He prophesies his death.

Buddha's last words.

The Fo-wei-kian-king,[2] or 'Dying Instruction of Buddha,' translated into Chinese between 397 and 415 A.D. from a still earlier Sanskrit text, gives to the last scene a somewhat different, although equal, beauty. 'It was now in the middle of the night,' it says, 'perfectly quiet and still; for the sake of his disciples, he delivered a summary of the law.' After laying down the rules of a good life, he revealed the inner doctrines of his faith. From these I select a few sentences. 'The heart is lord of the senses: govern, therefore, your heart; watch well the heart.' 'Think of the fire that shall consume the world, and early seek deliverance from it.' 'Lament not my going away, nor feel regret. For if I remained in the world, then what would become of the church? It must perish without fulfilling its end. From henceforth all my disciples, practising their various duties, shall prove that my true Body, the Body of the Law (*Dharmakaya*), is everlasting and imperishable. The world is fast bound in fetters; I now give it deliverance, as a physician who brings heavenly medicine. Keep your mind on my teaching; all other things change, this changes not. No more shall I speak to you. I desire to depart. I desire the eternal rest (*Nirvána*). This is my last exhortation.'

Chinese text of Buddha's dying discourse.

The doctrines of Buddha.

The secret of Buddha's success was, that he brought spiritual

[1] According to some accounts; according to others, at about seventy. But the chronology of Buddha's life is legendary.

[2] Translated in Appendix to the Catalogue of the Manuscripts presented by the Japanese Government to the Secretary of State for India, and now in the India Office.—Concluding letter of Mr. Beal to Dr. Rost, dated 1st September 1874, sec. 5.

deliverance to the people. He preached that salvation was equally open to all men, and that it must be earned, not by propitiating imaginary deities, but by our own conduct. He thus cut away the religious basis of caste, of the sacrificial ritual, and of Bráhman supremacy as the mediators between God and man. He taught that sin, sorrow, and deliverance, the state of a man in this life, in all previous and in all future lives, are the inevitable results of his own acts (*Karma*). He thus applied the inexorable law of cause and effect to the soul. What a man sows, that he must reap. As no evil remains without punishment, and no good deed without reward, it follows that neither priest nor God can prevent each act bearing its own consequences. Misery or happiness in this life is the unavoidable result of our conduct in a past life; and our actions here will determine our happiness or misery in the life to come. When any creature dies, he is born again in some higher or lower state of existence, according to his merit or demerit. His merit or demerit consists of the sum total of his actions in all previous lives. By this great law of *Karma*, Buddha explained the inequalities and apparent injustice of man's state in this world as the unavoidable consequence of acts in the past; while Christianity compensates those inequalities by rewards in the future. A system in which our whole well-being, past, present, and to come, depends on ourselves, leaves little room for a personal God. But the atheism of Buddha was a philosophical tenet, which does not weaken the sanctions of right and wrong.[1]

Law of *Karma*.

The liberation of the soul.

Life, according to Buddha, must always be more or less painful; and the object of every good man is to get rid of the evils of existence by merging his individual soul into the universal soul. This is *Nirvána*, literally 'cessation.' Some Buddhists explain it as absolute annihilation, when the soul is blown out like the flame of a lamp. Others hold that it is the extinction of the sins, sorrows, and selfishness of individual life; the final state of union and communion with the Supreme, or the absorption of the individual soul into the divine essence. The fact is, that the doctrine underwent processes of change and development like all theological dogmas. 'But the earliest idea of *Nirvána*,' says one of the greatest authorities on Chinese Buddhism, 'seems to have included in it no more than the enjoyment of a state of rest consequent on the extinction

Nirvána.

[1] 'Buddhism,' says Mr. Beal, *Catena of Buddhist Scriptures*, p. 153, 'declares itself ignorant of any mode of personal existence compatible with the idea of spiritual perfection, and so far, it is ignorant of God.'

of all causes of sorrow.'[1] The great practical aim of Buddha's teaching was to subdue the lusts of the flesh and the cravings of the mind; and *Nirvána* has been taken to mean the extinction of the sinful grasping condition of heart which, by the inevitable law of *Karma*, would involve the penalty of renewed individual existence. The pious Buddhist strove to reach a state of quietism or holy meditation in this world, and looked forward to an eternal calm in a world to come.

Moral code.

Buddha taught that this end could only be attained by the practice of virtue. He laid down eight precepts of morality, with two more for the religious orders, making ten commandments (*dasa-síla*) in all. He arranged the besetting faults of mankind into ten sins, and set forth the special duties applicable to each condition of life; to parents and children, to pupils and teachers, to husbands and wives, to masters and servants, to laymen and the religious orders. In place of the Bráhman rites and sacrifices, Buddha prescribed a code of practical morality as the means of salvation. The three essential features of that code were—control over self, kindness to other men, and reverence for the life of all sentient creatures.

Missionary aspects of Buddhism.

He urged on his disciples that they must not only follow the true path themselves, but that they should preach it to all mankind. Buddhism has from the first been a missionary religion. One of the earliest acts of Buddha's public ministry was to send forth the Sixty; and he carefully formulated the four chief means of conversion. These were companionship with the good, listening to the Law, reflection upon the truths heard, and the practice of virtue. He also instituted a religious Order, one of whose special duties it was to go forth and preach to the nations. While, therefore, the Bráhmans kept their ritual for the twice-born Aryan castes, Buddhism addressed itself not only to those castes and to the lower mass of the people, but to all the non-Aryan races throughout India, and eventually to the whole Asiatic world.

The First Council, 543 B.C. (?)

On the death of Buddha, five hundred of his disciples met in a vast cave near Rájágriha, to gather together his sayings. This was the First Council. They chanted the lessons of their master in three great divisions—the words of Buddha to

[1] Beal: *Catena of Buddhist Scriptures from the Chinese*, p. 157, ed. 1871; and the *Buddhist Tripitaka*, App., Letter to Dr. Rost, sec. 6. Max Müller deals with the word from the etymological and Sanskrit side in his *Chips from a German Workshop*, vol. i. pp. 279, 290, ed. 1867. But see, specially, Childers' *Páli Dictionary*, s.v. Nilbánam, pp. 265-274.

his disciples;[1] his code of discipline;[2] and his system of doctrine.[3] These became the Three Collections[4] of Buddha's teaching; and the word for a Buddhist Council[5] means literally 'a singing together.' A century afterwards, a Second Council, of seven hundred, was held at Vaisali, to settle disputes between the more and the less strict followers of Buddhism. It condemned a system of ten 'Indulgences' which had grown up; but it led to the separation of the Buddhists into two hostile parties, who afterwards split into eighteen sects.

Second Buddhist Council, 443 B.C. (?)

Third Buddhist Council, 244 B.C. (?)

During the next two hundred years Buddhism spread over Northern India, perhaps receiving a new impulse from the Greek kingdoms in the Punjab. About 257 B.C., Asoka, the King of Magadha or Behar, became a zealous convert to the faith.[6] Asoka was grandson of Chandra Gupta, the adventurer in Alexander's camp, and afterwards the ally of Seleukos (see *post*, p. 264). Asoka is said to have supported 64,000 Buddhist priests; he founded many religious houses, and his kingdom is called the Land of the Monasteries (Vihára or Behar) to this day.

[1] *Sútras*. [2] *Vinaya*. [3] *Abhidharma*.
[4] *Pitakas*, literally 'baskets.' [5] *Sangíti* in Páli.
[6] Much learning has been expended upon the age of Asoka, and various dates have been assigned to him. But, indeed, all Buddhist dates are open questions, according to the system of chronology adopted. The middle of the 3rd century B.C. may be taken as the most likely era of Asoka. The following table from General Cunningham's *Corpus Inscriptionum Indicarum*, p. vii. (1877), exhibits the results of the latest researches on this subject:—

B.C. 264	ASOKA, Struggle with brothers, 4 years.
260	Comes to the throne.
257	Conversion to Buddhism.
256	Treaty with Antiochus.
255	Mahindo ordained.
251	Earliest date of rock edicts.
249	Second date of rock edicts.
248	Arsakes rebels in Parthia.
246	Diodotus rebels in Bactria.
244	Third Buddhist Council under Mogaliputra.
243	Mahindo goes to Ceylon.
242	Barábar cave inscriptions.
234	Pillar edicts issued.
231	Queen Asandhimitta dies.
228	Second Queen married.
226	Her attempt to destroy the Bodhi tree.
225	Asoka becomes an ascetic.
224	Issues Rúpnáth and Sasseram edicts.
223	Dies.
215	DASARATHA'S cave inscriptions, Nágárjuni.

Asoka did for Buddhism what Constantine afterwards effected for Christianity; he organized it on the basis of a State religion. This he accomplished by five means—by a Council to settle the faith, by edicts promulgating its principles, by a State Department to watch over its purity, by missionaries to spread its doctrines, and by an authoritative revision or canon of the Buddhist scriptures. In 244 B.C., Asoka convened at Patná the Third Buddhist Council, of one thousand elders. Evil men, taking on them the yellow robe of the Order, had given forth their own opinions as the teaching of Buddha. Such heresies were now corrected; and the Buddhism of Southern Asia practically dates from Asoka's Council. In a number of edicts, both before and after the synod, he published throughout India the grand principles of the faith. Such edicts are still found graven deep upon pillars, caves, and rocks, from the Yusafzai valley beyond Peshâwar on the north-western frontier, through the heart of Hindustán and the Central Provinces, to Káthiáwár in the west, and Orissa in the east. Tradition states that Asoka set up 84,000 memorial columns or topes; and the forty inscriptions extant in our own day show how widely these royal sermons were spread over India.[1] In the year of the Council, the king also founded a State Department to watch over the purity, and to direct the spread, of the faith. A Minister of Justice and Religion (Dharma Mahámátra) directed its operations; and, one of its first duties being

The work of Asoka.

(1) His Great Council.

(2) His edicts.

(3) His Department of Public Worship.

[1] Major-General Cunningham, Director-General of the Archæological Survey of India, enumerates 13 rock inscriptions, 17 cave inscriptions, and 10 inscribed pillars. The rock inscriptions are at—(1) Sháhbázgarhi in the Yusafzái country, 40 miles east-north-east of Peshâwar; (2) Khálsi, on the west bank of the Jumna; (3) Girnár in Káthiáwár, 40 miles north of Somnáth; (4 to 7) Dhauli in Cuttack, midway between Cuttack and Purí, and Jaugada in Ganjám District, 18 miles north-north-west of Berhampur,—two inscriptions at each virtually identical; (8) Sasseram, at the north-east end of the Káimur range, 70 miles south-east of Benares; (9) Rúpnáth, a famous place of pilgrimage, 35 miles north of Jabalpur; (10 and 11) Bairát, 41 miles north of Jáipur; (12) the Khandgiri Hill, near Dhauli in Cuttack; (13) Deotek, 50 miles south-east of Nágpur. The cave inscriptions, 17 in number, are found at—(1, 2, 3) Barábar, and (4, 5, 6) in Nágárjuni Hills, both places 15 miles north of Gayá; (7 to 15) in Khandgiri Hill in Cuttack, and (16 and 17) in Rámgarh in Sirguja. The ten inscribed pillars are—(1) the Delhi-Siwálik, at Delhi; (2) the Delhi-Meerut, at Delhi; (3) the Allahábád; (4) the Lauriya-Araráj, at Lauriya, 77 miles north of Patná; (5) the Lauriya-Navandgarh, at Lauriya, 15 miles north-north-west of Bettia; (6 and 7) two additional edicts on the Delhi-Siwálik, not found on any other pillar; (8 and 9) two short additional edicts on the Allahábád pillar, peculiar to itself; (10) a short mutilated record on a fragment of a pillar at Sánchi, near Bhílsa.

to proselytize, he was specially charged with the welfare of the aborigines among whom its missionaries were sent. Asoka did not think it enough to convert the inferior races, without looking after their material interests. Wells were to be dug, and trees planted, along the roads; a system of medical aid was established throughout his kingdom and the conquered Provinces, as far as Ceylon, for man and beast.[1] Officers were appointed to watch over domestic life and public morality,[2] and to promote instruction among the women as well as the youth.

(4) Missionary efforts.

Asoka recognised proselytism by peaceful means as a State duty. The Rock Inscriptions record how he sent forth missionaries 'to the utmost limits of the barbarian countries,' to 'intermingle among all unbelievers' for the spread of religion. They shall mix equally with soldiers, Bráhmans, and beggars, with the dreaded and the despised, both within the kingdom 'and in foreign countries, teaching better things.'[3] Conversion is to be effected by persuasion, not by the sword. Buddhism was at once the most intensely missionary religion in the world, and the most tolerant. This character of a proselytizing faith, which wins its victories by peaceful means, so strongly impressed upon it by Asoka, has remained a prominent feature of Buddhism to the present day. Asoka, however, not only took measures to spread the religion, he also endeavoured to secure its orthodoxy. He collected the body of doctrine into an authoritative version, in the Magadhi language or dialect of his central kingdom in Behar; a version which for two thousand years has formed the canon (*pitakas*) of the Southern Buddhists.

(5) Reformed canon of Buddhist scriptures.

Mr. Robert Cust has summarized the purport of the Fourteen Edicts of Asoka in the following sentences:—

Edicts of Asoka.

1. Prohibition of the slaughter of animals for food or sacrifice.
2. Provision of a system of medical aid for men and animals, and of plantations and wells on the roadside.
3. Order for a quinquennial humiliation and republication of the great moral precepts of the Buddhistic creed.
4. Comparison of the former state of things, and the happy existing state under the king.
5. Appointment of missionaries to go into various countries, which are enumerated, to convert the people and foreigners.

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[1] Rock Inscriptions, Edict ii., General Cunningham's *Corpus Inscriptionum*, p. 118.

[2] Rock Inscriptions, Edict vi. etc., *Corpus Inscriptionum*, p. 120. These Inspectors of Morals are supposed to correspond to the Sixth Caste of Megasthenes, the Ἐπίσκοποι of Arrian.

[3] Rock Inscriptions, Edict v. etc., *Corpus Inscriptionum*, p. 120.

6. Appointment of informers (or inspectors) and guardians of morality.
7. Expression of a desire that there may be uniformity of religion and equality of rank.
8. Contrast of the carnal pleasures of previous rulers with the pious enjoyments of the present king.
9. Inculcation of the true happiness to be found in virtue, through which alone the blessings of heaven can be propitiated.
10. Contrast of the vain and transitory glory of this world with the reward for which the king strives and looks beyond.
11. Inculcation of the doctrine that the imparting of *dharma* or virtue is the greatest of charitable gifts.
12. Address to all unbelievers.
13. (Imperfect); the meaning only conjectural.
14. Summing up of the whole.

Fourth Council, Kanishka (40 A.D.?)

The fourth and last of the great Councils was held under King Kanishka, according to one tradition, four hundred years after Buddha's death. The date of Kanishka is still uncertain; but, from the evidence of coins and inscriptions, his reign has been fixed in the 1st century after Christ, or, say, 40 A.D.[1] Kanishka, the most famous of the Saka conquerors, ruled over North-Western India, and the adjoining countries. His authority had its nucleus in Kashmír, but it extended to both sides of the Himálayas, from Yarkand and Khokan to Agra and Sind. His Council of five hundred drew up three commentaries on the Buddhist faith. These commentaries supplied in part materials for the Tibetan or Northern Canon, completed at subsequent periods. The Northern Canon, or, as the Chinese proudly call it, the 'Greater Vehicle of the Law,' includes many later corruptions or developments of the Indian faith as originally embodied by Asoka in the 'Lesser Vehicle,' or Canon of the Southern Buddhists (244 B.C.). The Buddhist Canon of China, a branch of the 'Greater Vehicle,' was arranged between 67 and 1285 A.D. It includes 1440 distinct works, comprising 5586 books. The ultimate divergence between the Canons is great, both as to the historical aspects of Buddha's life and as to his teaching. With respect to doctrine, one example will suffice. According to the Northern or 'Greater Vehicle,' those who transgressed wilfully after ordination might yet recover themselves; while to such persons the Southern or 'Little Vehicle' allowed no room for repentance.[2]

Northern and Southern Canons.

The original northern commentaries were written in the

[1] The latest efforts to fix the date of Kanishka are little more than records of conflicting authorities. See Dr. James Fergusson's paper in the *Journal of the Royal Asiatic Society*, Article ix., April 1880; and Mr. E. Thomas' comprehensive disquisition on the Sáh and Gupta coins, pp. 18-79 of the *Report of the Archæological Survey of Western India for* 1874-75, 4to, London, 1876.

[2] Beal; *Catena*, p. 253.

Sanskrit language, perhaps because the Kashmír and northern priests, who formed Kanishka's Council, belonged to isolated Aryan colonies which had been little influenced by the growth of the Indian vernacular dialects. Kanishka and his Kashmír Council (40 A.D.?) thus became in some degree to the Northern or Tibeto-Chinese Buddhists, what Asoka and his Patná Council (244 B.C.) had been to the Buddhists of Ceylon and the South.

Buddhism as a national religion.

Buddhism was thus organized as a State religion by the Councils of Asoka and Kanishka. It started from Bráhmanical doctrines; but from those doctrines, not as taught in hermitages to clusters of Bráhman disciples, but as vitalized by a preacher of rare power in the capital cities of India. Buddha did not abolish caste. On the contrary, reverence to Bráhmans and the spiritual guide ranked as one of the three great duties, with obedience to parents and acts of kindness to all men and animals. He introduced, however, a new classification of mankind, on a spiritual basis of believers and unbelievers. The former took rank in the Buddhist community,—at first, according to their age and merit; in later times, as laity[1] and clergy[2] (*i.e.* the religious orders). Buddhism carried transmigration to its utmost spiritual use, and proclaimed our own actions to be the sole ruling influence on our past, present, and future states. It was thus led into the denial of any external being or god who could interfere with the immutable law of cause and effect as applied to the soul. But, on the other hand, it linked together mankind as parts of one universal whole, and denounced the isolated self-seeking of the human heart as 'the heresy of individuality.'[3] Its mission was to make men more moral, kinder to others, and happier themselves; not to propitiate imaginary deities. It accordingly founded its teaching on man's duty to his neighbour, instead of on his obligations to God; and constructed its ritual on a basis of relic-worship or the commemoration of good men, instead of on sacrifice. Its sacred buildings were not temples to the gods, but monasteries (*viháras*) for the religious orders, with their bells and rosaries; or memorial shrines,[4] reared over a tooth or bone of the founder of the faith.

Spread of Buddhism.

The missionary impulse given by Asoka quickly bore fruit. In the year after his great Council at Patná (244 B.C.), his son

[1] Upasáka.

[2] *Sramana*, *bsikshu* (monk or religious mendicant), *bhikshuní* (nun).

[3] *Sakáyaditthi.*

[4] *Stúpas*, *topes*, literally 'heaps or tumuli;' *dagobas* or *dhátu-gopas*, 'relic-preservers;' *chaityas*.

Mahindo[1] carried Asoka's version of the Buddhist scriptures in the Magadhi language to Ceylon. He took with him a band of fellow-missionaries; and soon afterwards, his sister, the princess Sanghamittá, who had entered the Order, followed with a company of nuns. It was not, however, till six hundred years later (410-432 A.D.) that the holy books were rendered into Páli, the sacred language of the Southern Buddhists. About the same time, missionaries from Ceylon finally established the faith in Burma (450 A.D.). The Burmese themselves assert that two Buddhist preachers landed in Pegu as early as 207 B.C. Some, indeed, place their arrival just after the Patná Council, 244 B.C., and point out the ruined city of Tha-ton, between the Sitoung (Tsit-taung) and Salwín estuaries, as the scene of their pious labours. Siam was converted to Buddhism in 638 A.D.; Java received its missionaries direct from India between the 5th and the 7th centuries, and spread the faith to Bali and Sumatra.[2] While Southern Buddhism was thus wafted across the ocean, another stream of missionaries had found their way by Central Asia into China. Their first arrival in that empire is said to date from the 2nd century B.C., although it was not till 65 A.D. that Buddhism there became the established religion. The Greco-Bactrian kingdoms in the Punjab, and beyond it, afforded a favourable soil for the faith. The Scythian dynasties that succeeded them accepted it, and the earliest remains which recent discovery has unearthed in Afghánistán are Buddhist. Kanishka's Council, soon after the commencement of the Christian era, gave a fresh impetus to the faith. Tibet, South Central Asia, and China, lay along the great missionary routes of Northern Buddhism; the Kirghis are said to have carried the religion as far west as the Caspian; on the east, the religion was introduced into the Korea in 372 A.D., and thence into Japan in 552.

In the South, Ceylon, etc., 244 B.C. to 638 A.D.

In the North, China, etc., 2d century B.C. to 552 A.D.

Buddhist doctrines are believed to have deeply affected religious thought in Alexandria and Palestine. The question is yet undecided as to how far the Buddhist ideal of the holy

Buddhist influence on Christianity.

[1] Sanskrit, Mahendra.

[2] All these dates are uncertain, they are founded on the Cingalese chronology, but the orthodox in the various countries place their national conversion at remoter periods. Occasionally, however, the dates can be tested from external sources. Thus we know from the Chinese traveller Fa-Hian, that up to about 414 A.D. Java was still unconverted. Fa-Hian says, 'Heretics and Bráhmans were numerous there, and the law of Buddha in nowise entertained.' The Burmese chroniclers go back to a time when the duration of human life was ninety millions of years; and a single dynasty ruled for a period represented by a unit followed by 140 cyphers. See *Imperial Gazetteer*, vol. viii., *s.v.* SANDOWAY.

life, with its monks, nuns, relic-worship, bells, and rosaries, influenced Christian monachism; and to what extent Buddhist philosophy aided the development of the Gnostic heresies, particularly those of Basilides and Manes, which rent the early church. It is certain that the analogies are striking, and have been pointed out alike by Jesuit missionaries in Asia, and by oriental scholars in Europe.[1] The form of abjuration for those who renounced the Gnostic doctrines of Manes, expressly mentions Βόδδα and the Σκυθιανός (Buddha and the Scythian or Sákya)—seemingly, says Weber, a separation of Buddha the Sákya into two.[2] At this moment the Chinese in San Francisco assist their devotions by pictures of the Buddhist Goddess of Mercy, imported on thin paper from Canton, which the Irish Roman Catholics identify as the Virgin Mary with the infant in her arms, an aureole round her head, an adoring figure at her feet, and the Spirit hovering near in the form of a bird.[3] But it is right to point out that the early Nestorian Christians in China may have been the source of some of these resemblances. The liturgy of the Goddess of Mercy, Kwan-yin, in which the analogies to the Eastern Christian office are most strongly marked, have been traced with certainty only as far back as 1412 A.D. in the Chinese Canon.[4] Professor Max Müller endeavours to show that Buddha himself is the original of Saint Barlaam Josaphat, who has a day assigned to him in the Calendar of both the Greek and Roman churches.[5] The Hindus, while denouncing Buddha as a heretic, have been constrained to admit him to a place in their mythology. They regard him as the ninth, and hitherto last, incarnation of Vishnu,—the Lying Spirit let loose to deceive men until the tenth or final descent of Vishnu, on the white horse, with a

Buddha as an *avatár* of Vishnu.

[1] For the latter aspect of the question, see Weber, founding on Lassen, Renan, and Beal, *Hist. Ind. Lit.*, p. 309, note 363, ed. 1878.

[2] But see *post*, p. 270.

[3] See also *post*, pp. 291, 292. Polemical writers, Christian and Chinese, have with equal injustice accused Buddhism and Christianity of consciously plagiarizing each other's rites. Thus Kuang-Hsien, the distinguished member of the Astronomical Board, who brought about the Chinese persecution of the Christians from 1665 to 1671, writes of them: 'They pilfer this talk about heaven and hell from the refuse of Buddhism, and then turn round and revile Buddhism.'—*The Death-blow to the Corrupt Doctrines of T'ien-chu* (*i.e.* Christianity), p. 46 (Shanghai, 1870). See also the remarks of Jao-chow—'The man most distressed in heart'—in the same collection.

[4] For an excellent account from the Chinese texts of the worship and liturgy of Kwan-yin, 'the Saviour,' or in her female form as the Goddess of Mercy, see Beal's *Catena of Buddhist Scriptures*, 383-397 (Trübner, 1871).

[5] *Chips from a German Workshop*, vol. iv. pp. 177-189, ed. 1875.

flaming sword like a comet in his hand, for the destruction of the wicked and the renovation of the world.

While on the one hand a vast growth of legends has arisen around Buddha, tending to bring out every episode of his life into strong relief, efforts have been made on the other hand to explain away his personal identity. No date can be assigned with any certainty for his existence on this earth. The Northern Buddhists have fourteen different accounts, ranging from 2422 to 546 B.C.[1] The Southern Buddhists agree in starting from the 1st of June 543 B.C. as the day of Buddha's death. This latter date, 543 B.C., is usually accepted by European writers; but it does not fit into Indian chronology as worked out from inscriptions and coins.[2] Some scholars, indeed, have argued that Buddhism is merely a religious development of the Sánkhya philosophy of Kapila; that Buddha's birth is placed at a purely allegorical site, Kapila-Vastu, 'the abode of Kapila;' that his mother is called Máyá-deví, in reference to the Máyá doctrine of Kapila's system; and that his own two names are symbolical ones, Siddartha, 'he who has fulfilled his end,' and Buddha, 'the enlightened.' Buddhism and Bráhmanism are unquestionably united by intermediate links. Certain of the sacred texts of the Bráhmans, particularly the Vrihad Aranyaka and the Atharva Upanishad of the Yoga system, teach doctrines which are completely Buddhistic. According to Wilson and others, Buddha had no personal existence.[3] Buddhism was merely the Sánkhya philosophy turned into a national religion; and the religious life of the Buddhistic orders was the old Bráhmanical type popularized. The theory is at any rate so far true, that Buddhism was not a sudden invention of any single mind, but a development on a broader basis of a philosophy and religion which preceded it. But such speculations leave out of sight the two great traditional features of

Buddha's personality denied.

[1] Csoma de Körösi, on the authority of Tibetan MSS., *Tibetan Grammar*, p. 199.

[2] General Cunningham works back the date of Buddha's death to 478 B.C., and takes this as his starting-point in the *Corpus Inscriptionum Indicarum*, p. vii. The subject is admirably discussed by Mr. Rhys Davids in the *International Numismata Orientalia* (Ceylon fasciculus), pp. 38-56. He arrives at 412 B.C. as the most probable date.

[3] Professor H. H. Wilson went so far as to say, 'It seems not impossible that Sákya Muni is an unreal being, and that all that is related of him is as much a fiction as is that of his preceding migrations and the miracles that attended his birth, his life, and his departure.' The arguments are dealt with by Weber, *Hist. Ind. Lit.*, pp. 284-290, ed. 1878.

Buddhism—namely, the preacher's appeal to the people, and the undying influence of his beautiful life.

Buddhism did not oust Bráhmanism.

Buddhism never ousted Bráhmanism from any large part of India. The two systems co-existed as popular religions during more than a thousand years (244 B.C. to about 800 A.D.), and modern Hinduism is the joint product of both. Certain kings and certain eras were intensely Buddhistic; but the continuous existence of Bráhmanism is abundantly proved from the time of Alexander (327 B.C.) downwards. The historians who chronicled his march, and the Greek ambassador Megasthenes, who succeeded them (300 B.C.) in their literary labours, bear witness to the predominance of Bráhmanism in the period immediately preceding Asoka. Inscriptions, local legends, Sanskrit literature, and the drama, disclose the survival of Bráhman influence during the next six centuries (244 B.C. to 400 A.D.). From 400 A.D. we have the evidence of the Chinese pilgrims, who toiled through Central Asia into India to visit the birth-place of their faith. Fa-Hian entered India from Afghánistán, and journeyed down the whole Gangetic valley to the Bay of Bengal in 399-413 A.D. He found Bráhman priests equally honoured with Buddhist monks, and temples to the Indian gods side by side with the religious houses of the Buddhist faith. Hiouen Thsang also travelled to India from China by the Central Asia route, and has left a fuller record of the state of the two religions in the 7th century. His wanderings extended from 629 to 645 A.D., and everywhere throughout India he found the two systems eagerly competing for the suffrages of the people. By this time, indeed, Bráhmanism was beginning to reassert itself at the expense of the other religion. The monuments of the great Buddhist monarchs, Asoka and Kanishka, confronted him from the time he neared the Punjab frontier; but so also did the temples of Siva and his 'dread' queen Bhímá. Throughout North-Western India he found Buddhist convents and monks surrounded by 'swarms of heretics.' The political power was also divided, although the Buddhist sovereigns predominated. A Buddhist monarch ruled over ten kingdoms in Afghánistán. At Peshánwar, the great monastery built by Kanishka was deserted, but the populace remained faithful. In Kashmír, the king and people were devout Buddhists, under the teaching of 500 monasteries and 5000 monks. In the country identified with Jáipur, on the other hand, the inhabitants were devoted to heresy and war.

Buddhism and Bráhmanism, 400 A.D. to 645 A.D.

Buddhist influence in Northern India seems, during the 7th

century A.D., to have centred in the fertile *doáb* or plain between the Jumna and the Ganges. At Kanauj (Kanyákubja), on the latter river, Hiouen Thsang found a powerful Buddhist monarch, Síláditya, whose influence reached from the Punjab to North-Eastern Bengal, and from the Himálayas to the Narbada river. Here flourished 100 Buddhist convents and 10,000 monks. But the king's eldest brother had been lately slain by a sovereign of Eastern India, a hater of Buddhism; and 200 temples to the Bráhman gods reared their heads under the protection of the devout Síláditya himself. This monarch seems to have been an Asoka of the 7th century A.D., and he practised with primitive vigour the two great Buddhist virtues of spreading the faith and charity. The former he attempted by means of a general Council in 634 A.D. Twenty-one tributary sovereigns attended, together with the most learned Buddhist monks and Bráhmans of their kingdoms. But the object of the convocation was no longer the undisputed assertion of the Buddhist religion. It dealt with the two phases of the religious life of India at that time. First, a discussion between the Buddhists and Bráhmans, especially of the Sánkhya and Vaiseshika schools; second, a dispute between the two Buddhist sects who followed respectively the Northern and the Southern Canons known as 'the Greater and the Lesser Vehicle of the Law.' The rites of the populace were of as composite a character as the doctrines of their teachers. On the first day of the Council, a statue of Buddha was installed with great pomp; on the second, an image of the Sun-god; on the third, an idol of Siva.

Buddhism in India, 629-645 A.D.

Council of Síláditya, 634 A.D.

Síláditya held a solemn distribution of his royal treasures every five years. Hiouen Thsang describes how on the plain near Allahábád, where the Ganges and the Jumna unite their waters, all the kings of the Empire, and a multitude of people, were feasted for seventy-five days. Síláditya brought forth the stores of his palace, and gave them away to Bráhmans and Buddhists, monks and heretics, without distinction. At the end of the festival, he stripped off his jewels and royal raiment, handed them to the bystanders, and, like Buddha of old, put on the rags of a beggar. By this ceremony the monarch commemorated the Great Renunciation of the founder of the Buddhist faith, and at the same time practised the highest duty inculcated alike by the Buddhist and Bráhmanical religions, namely almsgiving. The vast monastery of Nalanda[1] formed

Síláditya's charity.

Monastery of Nalanda, 640 A.D.

[1] Identified with the modern Baragáon, near Gayá. The Great Monastery can be traced by a mass of brick ruins, 1600 feet long by 400 feet

a seat of learning which recalls the universities of Mediæval Europe. Ten thousand monks and novices of the eighteen Buddhist schools here studied theology, philosophy, law, science, especially medicine, and practised their devotions. They lived in lettered ease, supported from the royal funds. But even this stronghold of Buddhism is a proof that Buddhism was only one of two hostile creeds in India. During a single period, with regard to which the Chinese records afford information, it was three times destroyed by the enemies of the faith.[1]

Mingling of Buddhism and Bráhmanism, 629-645 A.D.

Hiouen Thsang travelled from the Punjab to the mouth of the Ganges, and made journeys into Southern India. But everywhere he found the two religions mingled. Gayá, which holds so high a sanctity in the legends of Buddha, had already become a great Bráhman centre. On the east of Bengal, Assam had not been converted to Buddhism. In the south-west, Orissa was a stronghold of the faith. But in the seaport of Tamluk, at the mouth of the Húglí, the temples to the Bráhman gods were five times more numerous than the convents of the faithful. On the Madras coast, Buddhism flourished; and indeed, throughout Southern India, the faith seems still to have been in the ascendant, although struggling against Bráhman heretics and their gods.

Victory of Bráhmanism, 600-800 A.D.

During the next two centuries, Bráhmanism gradually became the ruling religion. There are legends of persecutions, instigated by Bráhman reformers, such as Kumarila Bhatta and Sankara Achárjya. But the downfall of Buddhism seems to have resulted from natural decay, and from new movements of religious thought, rather than from any general suppression by the sword. Its extinction is contemporaneous with the rise of Hinduism, and belongs to a subsequent part of this sketch. In the 11th century, only outlying States, such as Kashmír and Orissa, remained faithful; and before the Muhammadans fairly came upon the scene, Buddhism as a popular faith had almost disappeared from India. During the last thousand years,

Buddhism an exiled religion, 1000 A.D.

Buddhism has been a banished religion from its native home. But it has won greater triumphs in its exile than it could have ever achieved in the land of its birth. It has created a literature and a religion for nearly half the human race, and has affected the beliefs of the other half. Five hundred millions of men, or forty per cent. of the inhabitants of the world, still follow the teaching of Buddha. Afghánistán,

deep. General Cunningham's *Ancient Geography of India*, pp. 468-470, ed. 1871.

[1] Beal's *Catena of Buddhist Scriptures from the Chinese*, p. 371, ed. 1871.

Nepál, Eastern Turkistán, Tibet, Mongolia, Manchuria, China, Japan, the Eastern Archipelago, Siam, Burma, Ceylon, and India, at one time marked the magnificent circumference of its conquests. Its shrines and monasteries stretched in a continuous line from what are now the confines of the Russian Empire to the equatorial islands of the Pacific. During twenty-four centuries, Buddhism has encountered and outlived a series of powerful rivals. At this day it forms, with Christianity and Islám, one of the three great religions of the world; and the most numerously followed of the three.

Its foreign conquests.

In India its influence has survived its separate existence. It not only left behind it a distinct sect, but it supplied the basis upon which Bráhmanism finally developed from the creed of a caste into the religion of the people. Of this Buddhistic influence on Hinduism I shall hereafter speak. The distinct sect is known as the Jains, who number about half a million[1] in India. Like the Buddhists, they deny the authority of the Veda, except in so far as it agrees with their own doctrines; disregard sacrifice; practise a strict morality; believe that their past and future states depend upon their own actions rather than on any external deity; and scrupulously reverence the vital principle in man and beast. They differ from the Buddhists chiefly in their ritual and objects of worship. The veneration of good men departed is common to both, but the Jains have expanded and methodized such adoration on lines of their own. The Buddhists admit that many Buddhas have appeared in successive lives upon earth, and attained *Nirvána* or beatific extinction; but they confine their reverence to a comparatively small number. The Jains divide time into successive eras, and assign twenty-four *Jinas*, or just men made perfect, to each.[2] They name twenty-four in the past age, twenty-four in the present, and twenty-four in the era to come; and place colossal statues of white or black marble to this great company of saints in their temples. They adore above all the two latest, or twenty-third and twenty-fourth *Jinas* of the present era—namely, Pársvanáth[3] and Mahávíra.

Buddhist survivals in India.

The Jains.

Jain doctrines.

[1] Returned by the Census of 1872 as 485,020 'Buddhists' in India; besides the 2,447,831 Buddhists in Burma. Except in a few spots, chiefly among the spurs of the Himálayas and in South-Eastern Bengal, the Indian Buddhists may be generally reckoned as Jains.

[2] Under such titles as Jagata-prabhu, 'lord of the world;' Kshínakarmá, 'freed from ceremonial acts;' Sarvajna, 'all-knowing;' Adhíswara, 'supreme lord;' Tírthankara, 'he who has crossed over the world;' and Jina, 'he who has conquered the human passions.'

[3] Popularly rendered Párasnáth.

They choose wooded mountains and the most lovely retreats of nature for their places of pilgrimage, and cover them with exquisitely carved shrines in white marble or dazzling stucco. PARASNATH Hill in Bengal, the temple city of PALITANA in Káthiáwár, and Mount ABU, which rises with its gems of architecture like a jewelled island from the Rájputána plains, form well-known scenes of their worship. Their nude images, like the naked ascetics of the ancient Niganthas, contrast with the completely clothed figures of the Buddhist shrines; but they are free from the indecencies sometimes represented in the sacred sculptures of the Hindus. The Jains are a wealthy community, usually engaged in banking or wholesale commerce, devoid indeed of the old missionary spirit of Buddhism, but closely knit together among themselves, and scarcely ever heard of in our prisons or courts. Their charity is boundless; and they form the chief supporters of the beast hospitals, which the old Buddhistic tenderness for animals has left in many of the cities of India.

Jain temple cities.

Relation of Jainism to Buddhism.

Jainism is, in some respects, Buddhism equipped with a mythology,—a mythology, however, not of gods, but of saints. The question has been raised, indeed, whether Jainism does not form a survival of beliefs anterior to Asoka and Kanishka. According to one view, the Jains are simply a remnant of the Indian Buddhists who saved themselves from extinction by compromises with Hinduism, and so managed to erect themselves into a recognised caste. According to another view, they represent in an unbroken succession the Nigantha sect of the Asoka edicts. They themselves claim as their founder, Vardhamána, the teacher or contemporary of Buddha; and the Niganthas appear as a sect independent of, indeed opposed to, the Buddhists in the Rock Inscriptions and Southern Canon (*pitakas*). A theory has thus been advanced that the Buddhism of Asoka (244 B.C.) was in reality a later product than the Nigantha or Jain doctrines. This venerable continuity for the modern sect is disputed as resting, so far, on too slender a basis.[1] In its practical aspects, however, Jainism may be described as Buddhism humanized by saint-worship, and narrowed from a national religion to suit the exclusive requirements of a sect. The noblest survivals of Buddhism in India are to be found, not among any peculiar body, but in

[1] The subject is discussed in Mr. Edward Thomas' *Jainism, or the Early Faith of Asoka*; in Mr. Rhys Davids' article in *The Academy* of 13th September 1879; and *Numismata Orientalia* (Ceylon fasciculus), pp. 55, 60 (Trübner, 1877).

the religion of the people; in that principle of the brotherhood of man, with the re-assertion of which each new revival of Hinduism starts; in the asylum which the great Hindu sects afford to women who have fallen victims to caste rules, to the widow and the outcast; in that gentleness and charity to all men, which take the place of a poor-law in India, and give a high significance to the half-satirical epithet of the 'mild' Hindu.

I have dwelt at perhaps undue length on Sanskrit literature and on Buddhism; for religion and philosophy have been the great contributions of India to the world. In the following sections we have to deal with India, not as a centre of influence upon other nations, but as acted on by them. I shall therefore pass with a rapid stride over the successive conquests of the country in order to reach our own time, when a national life is again awakening among the people.

External sources of the history of India.

THE EXTERNAL HISTORY OF INDIA commences with the Greek invasion in 327 B.C. Some indirect trade between India and the Mediterranean seems to have existed from very ancient times. Homer was acquainted with tin,[1] and other articles of Indian merchandise, by their Sanskrit names; and a long list has been made of Indian products mentioned in the Bible.[2] But the first Greek historian who speaks clearly of India is Hekataios of Miletos (549-486 B.C.); the knowledge of Herodotos (450 B.C.) ended at the Indus; and Ktesias, the physician (401 B.C.), brought back from his residence in Persia only a few facts about the products of India, its dyes and fabrics, monkeys and parrots. India to the east of the Indus was first made known to Europe by the historians and men of science who accompanied Alexander the Great in 327 B.C. Their narratives, although now lost, are condensed in Strabo, Pliny, and Arrian. Soon afterwards, Megasthenes, as Greek ambassador resident at a court in the centre of Bengal (306-298 B.C.), had opportunities for the closest observation. The knowledge of the Greeks and Romans concerning India practically dates from his researches, 300 B.C.[3]

Early Greek writers, 549-401 B.C.

Megasthenes, 306-298 B.C.

[1] Greek, Kassiteros; Sanskrit, Kastíra; hence, subsequently, the name of Kassiterides given to the Scilly Islands. Elephas, ivory, through the Arabian *eleph* (from Arabic *el*, the, and Sanskrit *ibha*, domestic elephant), is also cited.

[2] Dr. Birdwood's *Handbook to the British Indian Section of the Paris Exhibition of* 1878, pp. 22-35.

[3] The fragments of the Indika of Megasthenes, collected by Dr. Schwanbeck, with the first part of the Indika of Arrian, the Periplus,

Alexander's expedition, 327-325 B.C.

Alexander the Great entered India early in 327 B.C.; crossed the Indus above Attock, and advanced, without a struggle, over the intervening territory of the Taxiles[1] to the Jhelum (Hydaspes). He found the Punjab divided into petty kingdoms jealous of each other, and many of them inclined to join an invader rather than to oppose him. One of these local monarchs, Porus, disputed the passage of the Jhelum with a force which, substituting chariots for guns, about equalled the army of Ranjít Sinh, the ruler of the Punjab in the present century.[2] Plutarch gives a vivid description of the battle from Alexander's own letters. Having drawn up his troops at a bend of the Jhelum, about 14 miles west of the modern field of Chilianwála,[3] the Greek general crossed under shelter of a tempestuous night. The chariots hurried out by Porus stuck in the muddy bank of the river. In the engagement which followed, the elephants of the Indian prince refused to face the Greeks, and, wheeling round, trampled his own army under foot. His son fell early in the onset; Porus himself fled wounded; but on tendering his submission, he was confirmed in his kingdom, and became the conqueror's trusted friend. Alexander built two memorial cities on the scene of his victory,—Bukephala on the west bank, near the modern JALALPUR, named after his beloved charger slain in the battle; and Nikaia, the present MONG, on the east side of the river.

Alexander in the Punjab, 327-326 B.C.

Alexander advanced south-east through the kingdom of the younger Porus to Amritsar, and after a sharp bend backward to the west, to fight the Kathaei at Sangala, he reached the Beas (Hyphasis). Here, at a spot not far from the modern

Maris Erythræi, and Arrian's account of the voyage of Nearchus, have been collected in two most useful volumes by Mr. J. W. M'Crindle, M.A. (Trübner, 1877 and 1879). The Indika of Ktesias, with the 15th Book of Strabo, is also promised; and the sections referring to India in Ptolemy's *Geographia* would complete a series of high value to Indian history.

[1] The Takkas, a Turanian race, the earliest inhabitants of RAWAL PINDI DISTRICT. They gave their name to the town of Takshásila or Taxila, which Alexander found 'a rich and populous city, the largest between the Indus and Hydaspes,' identified with the ruins of DERI SHAHAN. Taki or Asarúr, on the road between Lahore and Pindi Bhatiyán, was the capital of the Punjab in 633 A.D.

[2] Namely, '30,000 efficient infantry; 4000 horse; 300 chariots; 200 elephants' [Professor Cowell]. The Greeks probably exaggerated the numbers of the enemy. Alexander's army numbered 'about 50,000, including 5000 Indian auxiliaries under Mophis of Taxila.'—General Cunningham, *Anc. Geog. of India*, p. 172. See his lucid account of the battle, with an excellent map, pp. 159-177, ed. 1871.

[3] And about 30 miles south-west of Jhelum town.

battle-field of Sobráon, he halted his victorious standards.[1] He had resolved to march to the Ganges; but his troops were worn out by the heats of the Punjab summer, and their spirits broken by the hurricanes of the south-west monsoon. The native tribes had already risen in his rear, and the Conqueror of the World was forced to turn back before he had crossed even the frontier Province of India. The Sutlej, the eastern Districts of the Punjab, and the mighty Jumna, still lay between him and the Ganges. A single defeat might have been fatal to his army; if the battle on the Jhelum had gone against him, not a Greek would probably have reached the Afghán side of the passes. Yielding at length to the clamour of his men, he led them back to the Jhelum. He there embarked 8000 of his troops in boats previously prepared, and floated them down the river; the remainder marched in two divisions along the banks.

Alexander in Sind, 325 B.C.

The country was hostile, and the Greeks held only the land on which they encamped. At Múltán, then as now the capital of the Southern Punjab, he had to fight a pitched battle with the Malli, and was severely wounded in taking the city. His enraged troops put every soul within it to the sword. Farther down, near the confluence of the five rivers of the Punjab, he made a long halt, built a town,—Alexandria, the modern Uchh,—and received the submission of the neighbouring States. A Greek garrison and Satrap, which he here left behind, laid the foundation of a lasting influence. Having constructed a new fleet, suitable for the greater rivers on which he was now to embark, he proceeded southwards through Sind, and followed the course of the Indus until he reached the ocean. In the apex of the delta, he founded or refounded a city—Patala—which survives to this day as Haidarábád, the capital of Sind.[2] At the mouth of the Indus, Alexander beheld for the first time the majestic phenomenon of the tides. One part of his army he shipped off under the com-

[1] The change in the course of the Sutlej has altered the old position of that river to the Beas at this point. The best small map of Alexander's route is No. v. in General Cunningham's *Anc. Geog. of India*, p. 104, ed. 1871; 64 miles to the inch.

[2] For its interesting appearances in ancient history, see General Cunningham's *Anc. Geog. of India*, pp. 279-287, under Patala or Nirankot. It appears variously as Pattala, Pattalene, Pitasila, etc. It was formerly identified with Tatta (Thatha), near to where the western arm of the Indus bifurcates. See also M'Crindle's *Com. and Nav. of Erythræan Sea*, p. 1 6. (Trübner, 1879.) An excellent map of Alexander's campaign in Sind is given at p. 248 of Cunningham's *Anc. Geog. of India*.

Leaves India, August 325 B.C. mand of Nearchus to coast along the Persian Gulf; the other he himself led through Southern Baluchistán and Persia to Susa, where, after terrible losses from want of water and famine on the march, he arrived in 325 B.C.

Results of Greek expedition, 327-325 B.C. During his two years' campaign in the Punjab and Sind, Alexander captured no Province, but he made alliances, founded cities, and planted Greek garrisons. He had transferred much territory to chiefs and confederations devoted to his cause; every petty court had its Greek faction; and the detachments which he left behind at various positions from the Afghán frontier to the Beas, and from near the base of the Himálayas to the Sind delta, were visible pledges of his return. At Taxila (DERI-SHAHAN) and Nikaia (MONG) in the Northern Punjab; at Alexandria (UCHH) in the Southern Punjab; at Patala (HAIDARABAD) in Sind; and at other points along his route, be established military settlements of Greeks or allies. A body of his troops remained in Bactria; and in the partition of the Empire after Alexander's death in 323 B.C., Bactria and India eventually fell to Seleukos Nikator, the founder of the Syrian monarchy. Seleukos, 323-312 B.C.

Chandra Gupta, 326 B.C.; Meanwhile, a new power had arisen in India. Among the Indian adventurers who thronged Alexander's camp in the Punjab, each with his plot for winning a kingdom or crushing a rival, Chandra Gupta, an exile from the Gangetic valley, seems to have played a somewhat ignominious part. He tried to tempt the wearied Greeks on the banks of the Beas with schemes of conquest in the rich south-eastern Provinces; but having personally offended their leader, he had to fly the camp (326 B.C.). In the confused years which followed, he managed, with the aid of plundering hordes, to found a kingdom on the ruins of the Nanda dynasty in Magadha, or Behar
316 B.C.; (316 B.C.).[1] He seized the capital, Pataliputra, the modern Patná; established himself firmly in the Gangetic valley, and compelled the north-western principalities, Greeks and natives alike, to acknowledge his suzerainty.[2] While, therefore, Seleukos was winning his way to the Syrian monarchy during the eleven years which followed Alexander's death, Chandra Gupta was building up an empire in Northern India. Seleukos reigned in Syria from 312 to 280 B.C.; Chandra
312 B.C. Gupta in the Gangetic valley from 316 to 292 B.C. In 312

[1] *Corpus Inscriptionum Indicarum*, i. 7.

[2] For the dynasty of Chandra Gupta, see *Numismata Orientalia* (Ceylon fasciculus), pp. 41-50.

B.C., the power of both had been consolidated, and the two new sovereignties were soon brought face to face.

About that year, Seleukos, having recovered Babylon, proceeded to re-establish his authority in Bactria and the Punjab. In the Punjab, he found the Greek influence decayed. Alexander had left a mixed force of Greeks and Indians at Taxila. But no sooner had he departed from India, than the Indians rose and slew the Greek governor; the Macedonians next massacred the Indians; a new governor, sent by Alexander, murdered the friendly Punjab prince, Porus; and was himself driven out of India, by the advance of Chandra Gupta from the Gangetic valley. Seleukos, after a war with Chandra Gupta, determined to ally himself with the new power in India rather than to oppose it. In return for 500 elephants, he ceded the Greek settlements in the Punjab and the Kábul valley; gave his daughter to Chandra Gupta in marriage; and stationed an ambassador, Megasthenes, at the Gangetic court (306-298 B.C.). Chandra Gupta became familiar to the Greeks as Sandrokottos, King of the Prasii; his capital, Pataliputra,[1] or Patná, was rendered into Palibothra. On the other hand, the Greeks and kings of Grecian dynasties appear in the rock-inscriptions, under Indian forms.[2]

Seleukos in India, 312-306 B.C.

306-298 B.C.

Megasthenes has left a life-like picture of the Indian people. Notwithstanding some striking errors, the observations which he jotted down at Patná, three hundred years before Christ, give as accurate an account of the social organization in the Gangetic valley as any which existed when the Bengal Asiatic Society commenced its labours at the end of the last century (1785). Up to the time of Megasthenes, the Greek idea of India was a very vague one. Their historians spoke of two classes of Indians,—certain mountainous tribes who dwelt in Northern Afghánistán under the Caucasus or Hindu Kush, and a maritime race living on the coast of Baluchistán. Of the India of modern geography lying beyond the Indus, they practically knew nothing. It was this India to the east of the Indus which Megasthenes opened up to the western world.

The India of Megasthenes, 300 B.C.

[1] The modern Patná, or Pattana, means simply 'the city.' For its identification with Pataliputrapura by means of Mr. Ravenshaw's signal discoveries, see General Cunningham's *Anc. Geog. of India*, p. 452 *et seq.*

[2] The Greeks as Yonas (Yavanas), from the Ἰάονες or Ionians. In the Inscriptions of Asoka, five Greek princes appear: Antiochos (of Syria); Ptolemy (Philadelphos of Egypt); Antigonos (Gonatos of Macedon); Magas (of Kyrene); Alexander (II. of Epirus).—Weber, *Hist. Ind. Lit.*, pp. 179, 252. But see also Wilson, *Journ. Roy. As. Soc.*, vol. xii. (1850), and Cunningham's *Corpus Inscrip. Indic.*, pp. 125, 126.

He describes the classification of the people, dividing them, however, into seven castes instead of four,[1]—namely, philosophers, husbandmen, shepherds, artisans, soldiers, inspectors, and the counsellors of the king. The philosophers were the Bráhmans, and the prescribed stages of their life are indicated. Megasthenes draws a distinction between the Bráhmans (Βραχμᾶνες) and the Sarmanai (Σαρμάναι), from which some scholars infer that the Buddhist Sramanas or monks were a recognised order fifty years before the Council of Asoka. But the Sarmanai also include Bráhmans in the first and third stages of their life as students and forest recluses.[2] The inspectors,[3] or sixth class of Megasthenes, have been identified with the Buddhist supervisors of morals, afterwards referred to in the sixth edict of Asoka. Arrian's name for them, ἐπίσκοποι, is the Greek word which has become our modern *bishop* or *overseer* of souls.

Kalanos the Bráhman.

The Bráhmans deeply impressed Alexander by their learning and austerities. One of them, Kalanos by name, was tempted, notwithstanding the reproaches of his brethren, to enter the service of the conqueror. But falling sick in Persia, Kalanos determined to die like a Bráhman, although he had not consistently lived as one. Alexander, on hearing of his philosopher's resolve to put an end to his life, vainly tried to dissuade him; then loaded him with jewels; and directed that he should be attended with all honours to the last scene. Distributing the
323 B.C. costly gifts of his master as he advanced, wearing a garland of flowers, and singing his native Indian hymns, the Bráhman mounted a funeral pyre, and serenely perished in the flames.

Indian society, 300 B.C.

The Greek ambassador observed with admiration the absence of slavery in India, the chastity of the women, and the courage of the men. In valour they excelled all other Asiatics; they required no locks to their doors; above all, no Indian was ever known to tell a lie. Sober and industrious, good farmers, and skilful artisans, they scarcely ever had recourse to a lawsuit, and lived peaceably under their native chiefs. The kingly government is portrayed almost as described in Manu, with its hereditary castes of councillors and soldiers. Megasthenes

Petty kingdoms.

mentions that India was divided into 118 kingdoms; some

[1] *Ancient India as described by Megasthenes and Arrian, being fragments of the Indika*, by J. W. M'Crindle, M.A., p. 40, ed. 1877.

[2] Brahmachárins and Vánaprasthas (ὑλόβιοι). Weber very properly declines to identify the Σαρμάναι exclusively with the Buddhist Sramanas. *Hist. Ind. Lit.*, p. 28, ed. 1878.

[3] The Ἔφοροι (Deodorus, Strabo), ἐπίσκοποι (Arrian).

of which, such as that of the Prasii under Chandra Gupta, exercised suzerain powers. The village system is well described, each little rural unit seeming to the Greek an independent republic. Megasthenes remarked the exemption of the husbandmen (Vaisyas) from war and public services; and enumerates the dyes, fibres, fabrics, and products (animal, vegetable, and mineral) of India. Husbandry depended on the periodical rains; and forecasts of the weather, with a view to 'make adequate provision against a coming deficiency,' formed a special duty of the Bráhmans. 'The philosopher who errs in his predictions observes silence for the rest of his life.'

Indo-Greek treaty, 256 B.C.

Before the year 300 B.C., two powerful monarchies had thus begun to act upon the Bráhmanism of Northern India, from the east and from the west. On the east, in the Gangetic valley, Chandra Gupta (316-292 B.C.) firmly consolidated the dynasty which during the next century produced Asoka (264-223 B.C.), established Buddhism throughout India, and spread its doctrines from Afghánistán to China, and from Central Asia to Ceylon. On the west, the heritage of Seleukos (312-280 B.C.) diffused Greek influences, and sent forth Greco-Bactrian expeditions to the Punjab. Antiochos Theos (grandson of Seleukos Nikator) and Asoka (grandson of Chandra Gupta), who ruled these probably conterminous monarchies, made a treaty with each other, 256 B.C. In the next century, Eukratides, King of Bactria, conquered as far as Alexander's royal city of Patala, the modern Haidarábád in the Sind Delta; and sent expeditions into Cutch and Guzerat, 181-161 B.C. Menander advanced furthest into North-Western India, and his coins are found from Kábul, near which he probably had his capital, as far as Muttra on the Jumna. The Buddhist successors of Chandra Gupta profoundly modified the religion of Northern India from the east; the empire of Seleukos, with its Bactrian and later offshoots, deeply influenced the science and art of Hindustán from the west.

Greeks in India, 181-161 B.C.

Greek influence on Indian art.

We have already seen how much Bráhman astronomy owed to the Greeks (p. 218); and what the Buddhists were to the architecture of Northern India, that the Greeks were to its sculpture. Greek faces and profiles constantly occur in ancient Buddhist statuary. They enrich almost all the larger museums in India, and examples may be seen at South Kensington. The purest specimens have been found in the Punjab, where the Greeks settled in greatest force. In the Lahore collection I saw, among other beautiful pieces, an exquisite little figure of an old blind man feeling his way with a staff.

Its subdued pathos, its fidelity to nature, and its living movement dramatically held for the moment in sculptured suspense, are Greek, and nothing but Greek. It is human misfortune, that has culminated in wandering poverty, age, and blindness —the very curse which Sophocles makes the spurned Teiresias throw back upon the doomed king—

> 'Blind, having seen;
> Poor, having rolled in wealth; he with a staff
> Feeling his way to a strange land shall go.'

Greek and Hindu types of sculpture. As we proceed eastward from the Punjab, the Greek type begins to fade. Purity of outline gives place to lusciousness of form. In the female figures, the artists trust more and more to swelling breasts and towering chignons, and load the neck with constantly accumulating jewels. Nevertheless, the Grecian type of countenance long survived in Indian art. It is perfectly unlike the coarse, conventional ideal of beauty in modern Hindu sculptures, and may perhaps be traced as late as the delicate profiles on the so-called Sun Temple at KANARAK, built in the 12th century A.D. on the Orissa shore.

Foreign influences on India. It must suffice to indicate the ethnical and dynastic influences thus brought to bear upon India, without attempting to assign dates to the individual monarchs. The chronology of the twelve centuries intervening between the Greco-Bactrian period and the Muhammadan conquest still depends on a mass of conflicting evidence derived from inscriptions, legendary literature, unwritten traditions, and coins.[1] Four systems of computation exist, based upon the Vikramáditya, Saka, Seleucidan, and Parthian eras. In the midst of the confusion, we see dim masses moving southwards from Central Asia into India. The Greco-Bactrian kings are traced by coins as far as Muttra on the Jumna. Their armies occupied for a time the Punjab, as far south as Gujarát and Sind. Sanskrit texts are said to indicate their advance through the Middle Land of the Bráhmans (Madhyadesha) to Sáketa (or AJODHYA), the capital of Oudh, and to Patná in Behar.[2] Megasthenes was only the first of a series of

Greeks in Bengal.

[1] Report of the *Archæological Survey of Western India for* 1874-75, p. 49 (Mr. E. Thomas' monograph).

[2] Goldstucker assigned the Yavana siege of Saketa (AJODHYA), mentioned in the Mahábháshya, to Menander; while the accounts of the Gárgí Sanhitá in the Yuga Purána speak of a Yavana expedition as far as Patná. But, as Weber points out (*Hist. Ind. Lit.*, p. 251, footnote 276), the question arises as to whether these Yavanas were Greeks or Indo-Scythians. See, however, *Report of Archæological Survey of Western India for* 1874-5, p. 49, and footnote.

Greek ambassadors to Bengal.[1] A Grecian lady became the queen of Chandra Gupta at Patná (*circ.* 306 B.C.). Greek girls, or Yavanis, were welcome gifts, and figure in the Sanskrit drama as the personal attendants of Indian princes. The credentials of the Indian embassy to Augustus in 22-20 B.C. were written on skins; a circumstance which perhaps indicates the extent to which Greek usage had overcome Bráhmanical prejudices. During the century preceding the Christian era, Scythian or Tartar hordes began to supplant the Greco-Bactrian influence in the Punjab.

Greek survivals in India.

The term Yavana, or Yona, formerly applied to a non-Bráhmanical race, and then to the Greeks, was now extended to the Sakæ or Scythians. It probably includes many various tribes of invaders from the west. Many years of patient effort will be required before the successive changes in the meaning of Yavana, both before and after the Greek period, are worked out.

The Yavanas.

About 126 B.C., the Tartar tribe of Su are said to have driven out the Greek dynasty from Bactria; and the Greco-Bactrian settlements in the Punjab were overthrown by the Tue-Chi.[2] The Scythian migrations towards India culminated in the empire of Kanishka, who held the Fourth Buddhist Council, *circa* 40 A.D., and practically became the royal founder of Northern Buddhism. The Scythic element thus played an important part in the history of Northern India. Under Kanishka and his successors a connection was established with the Buddhist nations of Central and Eastern Asia, traces of which survived to the time of Hiouen Thsang (629-645 A.D.) in the name of China-pati, about 10 miles to the west of the Beas river.[3] China-pati is said to have been the town which Kanishka appointed for the residence of his Chinese hostages. It has been suggested that the *Aswamedha*, or Great Horse Sacrifice, in some of its Indian developments at any rate, was based upon Scythic ideas. 'It was in effect,' writes Mr. Edward Thomas, 'a martial challenge, which consisted in letting the victim who was to crown the imperial triumph at the year's end, go free to wander at will over the face of the earth; its sponsor being bound to follow its hoofs, and to conquer or conciliate' the chiefs through whose territories it passed. Such

Scythic influences in India.

[1] Weber, *Hist. Ind. Lit.*, p. 251 (ed. 1878), enumerates four.

[2] De Guignes, supported by Prof. Cowell on the evidence of coins. Appendix to Elphinstone's *History of India*, p. 269, ed. 1866.

[3] General Cunningham's *Anc. Geog. of India*, p. 200.

The *Aswamedha*, of Scythic origin (?).

a prototype seems to him to shadow forth the life of the Central Asian communities of the horseman class, 'among whom a captured steed had so frequently to be traced from camp to camp, and surrendered or fought for at last.'[1]

Buddha a Scythian(?)

An effort has indeed been made to trace Buddha himself to a Scythic origin. He belonged to a royal stock of Sákyas; and the Chinese records supply an intermediate link between his birthplace in Bengal and the home of his race in Central Asia. These records, supported by Tibetan traditions, indicate that a branch of the Scythian hordes who overran Western Asia about 625 B.C. made its way to Patala on the Indus, the site selected by Alexander in 325 B.C. in that delta, and still the capital of Sind under the name of Haidarábád. One portion of these Patala Scythians went westwards by the Persian Gulf to Assyria; another section eventually moved north-east into the Gangetic valley, and became the Sákyas of Kapilavastu, among whom Buddha was born.[2] His dying command, that he should be buried according to the old practice of his race, and a mound erected over his remains, is opposed to the deeply-rooted Indo-Aryan custom of burning the corpse. But it is essentially in accord with the Scythian mode of disposing of the dead. In the topes or funeral mounds of Buddhism is seen a reproduction of the royal Scythian tombs of which Herodotos speaks.[3] The innumerable statues of the living Buddha all preserve the same strongly-marked non-Aryan type. It is therefore argued that the Christian fathers trace back, by no accident, the Manichean doctrine to one 'Scythianus,' whose disciple Terebinthus took the name of Buddha.[4]

Scythic Buddhism in India, 40-634 A.D.

Whatever may be the value of this conjecture, the influence of the Scythian dynasties in Northern India is a historical fact. The northern or Tibetan form of Buddhism, represented by Kanishka and his Council[5] in 40 A.D., made its way down to

[1] Report, *Archæological Survey of Western India*, pp. 37, 38 (1876). But see, in opposition to Mr. Thomas' view, M. Senart in the French *Journ. Asiatique*, 1875, p. 126.

[2] *Catena of the Buddhist Scriptures from the Chinese*, by S. Beal, pp. 126-130 (Trübner, 1871). See also Csoma de Körösi, *Journ. As. Soc. Beng.* 1833, and H. H. Wilson, *Ariana Antiqua*, p. 212, quoted by Weber, *Hist. Ind. Lit.*, p. 285 (1878). For Nágá or Scythic rites in Buddhism, and thence in Hinduism, see *post*, pp. 293, 294.

[3] Herod., iv. 71, 72, 127.

[4] 'I believe the legend of Sákya was perverted into this history of Scythianus.'—Beal, *Catena, ut supra*, p. 129, footnote. See also *ante*, p. 254.

[5] *Numismata Orientalia* (Ceylon fasc.), p. [illegible]

the plains of Hindustán, and during the next six centuries competed with the earlier Buddhism of Asoka. The Chinese pilgrim in 629-645 A.D. found both the Northern or Scythic and the Southern forms of Buddhism in full vigour in India. He spent fourteen months at China-pati, the town where Kanishka had kept his Chinese hostages in the Punjab; and he records the debates between the Northern and Southern sects of Buddhists in various places. The Scythic influence in India was a dynastic as well as a religious one. The evidence of coins and the names of Indian tribes or reigning families, such as the Sákas, Huns, and Nágas, point to Scythian settlements as far south as the Central Provinces.[1]

Scythic settlements in India.

Some scholars believe that the Scythians poured down upon India in such masses as to supplant the previous population. The Jits or Játs,[2] who form nearly one-half of the inhabitants of the Punjab, are identified with the Getae; and their great subdivision the Dhe, with the Dahae, whom Strabo places on the shores of the Caspian. This view has received the support of eminent investigators, from Professor H. H. Wilson to General Cunningham, the present Director-General of the Archæological Survey of India.[3] The existing division between the Játs and the Dhe has, indeed, been traced back to the contiguity of the Massa-getae or Great Getae,[4] and the Dahae, who dwelt by the side of each other in Central Asia; and who may have advanced together during the Scythian movements towards India on the decline of the Greco-Bactrian Empire. Without pressing such identifications too closely in the service of particular theories, the weight of authority is in favour of a Scythian origin for the Játs, the most numerous and industrious section of the population of the Punjab.[5] A similar descent has been assigned to certain of the Rájput tribes. Colonel Tod, still the standard historian of Rájásthán, strongly insisted on this point. The relationship between the Játs and the

Scythian elements in the population.

(1) Of the Játs.

[1] Muir's *Sanskrit Texts*, chap. v. vol. i. (1868); C. Grant's *Gazetteer of the Central Provinces*, lxx., etc. (Nagpur, 1870); Reports of the *Archæological Survey of India and of Western India;* Professor H. H. Wilson (and Dr. F. Hall), *Vishnu Purána*, ii. 134.

[2] The word occurs as Játs and Jats; but the identity of the two forms has been established by reference to the *Aín-í-Akbarí*. Some are Hindus, others Muhammadans.

[3] See among other places, part iv. of his *Archæological Report*, p. 19.

[4] *Massa* means 'great' in Pehlevi.

[5] It should be mentioned, however, that Dr. Trumpp believes them to be of Aryan origin (*Zeitsch. d. Deutsch. Morg. Gesellsch.*, xv. p. 690). See

(2) Of the Rájputs.

Rájputs, although obscure, is acknowledged; and although the *jus connubii* no longer exists between them, an inscription seems to show that they intermarried in the 5th century A.D.[1] Professor Cowell, indeed, regards the arguments for the Scythic descent of the Rájputs as inconclusive.[2] But authorities of great weight have deduced, alike from local investigation[3] and from Sanskrit literature,[4] a Scythic origin for the Játs and for some of the Rájput tribes. We shall see that the Scythian hordes also supplied certain of the non-Aryan or so-called aboriginal races of India.

Indian struggle against the Scythians.

The Scythic settlements were not effected without a struggle. As Chandra Gupta advanced from the Gangetic valley, and rolled back the tide of Greco-Bactrian conquest, 312-306 B.C., so the native princes who stemmed the torrent of Scythian invasion are the Indian heroes of the first century before and after Christ. Vikramáditya, King of Ujjain, won his paramount place in Indian story by driving out the invaders. An era, the *Samvat*, beginning in 57 B.C., was founded in honour of his achievements. Its date[5] seems at variance with his legendary victories over the Scythian Kanishka in the 1st century after Christ;[6] but his very name suffices to commemorate his struggle against the northern hordes, as Vikramáditya Sakári, or the Enemy of the Scythians. His reign forms the Augustan era of Sanskrit literature; and tradition has ascribed the highest products of the Indian intellect during many later centuries to the poets

Samvat era, 57 B.C.

[1] Inscription discovered in Kotah State; No. 1 of Inscription Appendix to Colonel Tod's *Annals and Antiquities of Rájásthán*, vol. i. p. 701, note 3 (Madras Reprint, 1873).

[2] Appendix to Elphinstone's *Hist. Ind.*, pp. 250 *et seq.*, ed. 1866.

[3] Tod's *Rájásthán*, pp. 52, 483, 500, etc., vol. i. (Madras Reprint, 1873).

[4] Dr. Fitz-Edward Hall's edition of Professor H. H. Wilson's *Vishnu Purána*, vol. ii. p. 134. The Húnas, according to Wilson, were 'the white Huns who were established in the Punjab, and along the Indus, as we know from Arrian, Strabo, and Ptolemy, confirmed by recent discoveries of their coins and by inscriptions.' 'I am not prepared,' says Dr. Fitz-Edward Hall, 'to deny that the ancient Hindus when they spoke of the Húnas included the Huns. In the Middle Ages, however, it is certain that a race called Húna was understood by the learned of India to form a division of the Kshattriyas.' Professor Dowson's *Dict. Hind. Mythology*, etc., p. 122.

[5] *Samvatsara*, the 'Year.' The uncertainty which surrounds even this long accepted finger-post in Indian chronology may be seen from Dr. J. Fergusson's paper 'On the Sáka and Samvat and Gupta eras' (*Journal Roy. As. Soc.*, New Series, vol. xii.), especially p. 172.

[6] The Hushka, Jushka, and Kanishka family of the Rájá Tarangini, or Chronicles of Kashmír, are proved by inscriptions to belong to the 4th century of the Seleucidan era, or the 1st century A.D.

and philosophers, or Nine Gems, of his Court. As Chandra Gupta, who freed India from the Greeks, is celebrated in the drama Mudrá-rákshasa; so Vikramáditya, the vanquisher of the Scythians, forms the central royal personage of the Hindu stage.

Sáka or Scythian era, 78 A.D.

Vikramáditya's achievements, however, furnished no final deliverance, but merely an episode in the long struggle between the Indian dynasties and new races from the north. Another popular era, the *Sáka*, literally the Scythian, takes its commencement in 78 A.D.,[1] and is supposed to commemorate the defeat of the Scythians by a king of Southern India, Saliváhana.[2] During the seven centuries which followed, three powerful monarchies, the Sáhs, Guptas, and Valabhís, established themselves in Northern and Western India. The Sáhs of Suráshtra are traced by coins and inscriptions from 60 or 70 B.C. to after 235 A.D.[3] After the Sáhs come the Guptas of KANAUJ,[4] in the North-Western Provinces, the Middle Land (Madhya-desha) of ancient Bráhmanism. The Guptas introduced an era of their own, commencing in 319 A.D.; and ruled in person or by viceroys over Northern India during 150 years, as far to the south-west as Káthiáwár. The Gupta dynasty was overthrown by foreign invaders, apparently a new influx of Huns or Tartars from the north-west (450-470 A.D.). The Valabhís succeeded the Guptas, and ruled over Cutch, the north-western Districts of Bombay,[5] and Málwá, from 480 to after 722 A.D.[6] The Chinese pilgrim, Hiouen Thsang, gives a full account of the court and people of Valabhí (630-640 A.D.). Buddhism was the State religion; but heretics (*i.e.*, Bráhmans) abounded; and the Buddhists themselves were divided between the northern school of the Scythian dynasties, and the southern or Indian school of Asoka. The Valabhís seem to have been overthrown by the early Arab invaders of Sind in the 8th century.

Sáh dynasty, 60 B.C. to 235 A.D.

Gupta dynasty, 319-470 A.D.

Valabhí dynasty, 480-722 A.D.

The relations of these three Indian dynasties, the Sáhs, Guptas, and Valabhís, to the successive hordes of Scythians,

[1] Monday, 14th March 78 A.D., Julian style.

[2] General Cunningham; see also Mr. Edw. Thomas' letter, dated 16th September 1874, to *The Academy*, which brings this date within the period of the Kanishka family (2 B.C. to 87 A.D.).

[3] By Mr. Newton. See Mr. E. Thomas on the Coins of the Sáh Kings, *Archæol. Rep. Western India*, p. 44 (1876); and Dr. J. Fergusson, *Journal Roy. As. Soc.*, 1880.

[4] Now a town of only 17,000 inhabitants in Farrukhábád District, but with ruins extending over a semicircle of 4 miles in diameter.

[5] Lát-desha, including the collectorates of SURAT, BROACH, KAIRA, and parts of BARODA territory.

[6] The genealogy is worked out in detail by Mr. E. Thomas, *ut supra*, pp. 80-82.

Long struggle against Scythic invaders, 57 B.C. to 544 A.D.

who poured down on Northern India, are obscure. There is abundant evidence of a long-continued struggle, but the efforts to affix dates to its chief episodes have not yet produced results which can be accepted as final. Two Vikramáditya Sakáris, or vanquishers of the Scythians, are required for the purposes of chronology; and the great battle of Korúr near Múltán, in which the Scythian hosts perished, has been shifted backwards and forwards from 78 to 544 A.D.[1] The truth seems to be that, during the first six centuries of the Christian era, the fortunes of the Scythian or Tartar races rose and fell from time to time in Northern India. They more than once sustained great defeats; and they more than once overthrew the native dynasties. Their presence is abundantly attested during the century before Christ, represented by Vikramáditya (57 B.C.); during the 1st century after Christ, represented by the Kanishka family (2 B.C. to 87 A.D.); and thence to the time of Cosmas Indicopleustes, about 535 A.D. The latest writer on the subject[2] believes that it was the white Huns who overthrew the Guptas between 465 and 470 A.D. He places the great battles of Korúr and Maushari, which 'freed India from the Sákas and Húnas,' between 524 and 544 A.D. Cosmas Indicopleustes, who traded in the Red Sea about 535 A.D., speaks of the Huns as a powerful nation in Northern India in his days.[3]

The pre-Aryan element in ancient India.

THE PRE-ARYANS.—While Greek and Scythic influences had thus been at work in Northern India during nine centuries (327 B.C. to 544 A.D.), another element was profoundly affecting the future of the Indian people. In a previous section, I have traced the fortunes, and sketched the present condition, of the pre-Aryan 'aborigines.' The Bráhmanical Aryans never accomplished a complete subjugation of these earlier races. The tribes and castes of non-Aryan origin still number about 18 millions in British territory; while the castes who claim a pure Aryan descent are under 16 millions.[4] The pre-Aryans have influenced the popular dialects of every Province, and in Southern

[1] 78 A.D. was the popularly received date, commemorated by the *Sáka* era; 'between 524 and 544 A.D.' is suggested by Dr. Fergusson (p. 284 of *Journal Roy. As. Soc.*, vol. xii.) in the latest discussion of the subject during the present year, 1880.

[2] Dr. J. Fergusson, *Journal Roy. As. Soc.*, pp. 282-284, etc. (1880).

[3] *Topographia Christiana*, lib. xi. p. 338 (Paris 1707); *apud* Fergusson, *ut supra*.

[4] This latter number includes both Bráhmans (10,131,541) and Kshattriyas and Rájputs (5,641,138). But, as we have seen, some of the

India they have given their speech to 46 millions of people. The Vedic settlements along the five rivers of the Punjab were merely colonies or confederacies of Aryan tribes, who had pushed in among a non-Aryan population. When an Aryan family advanced to a new territory, it had often, as in the case of the Pándava brethren, to clear the forest and drive out the aboriginal people. This double process constantly repeated itself; and as late as 1657, when the Hindu Rájá founded the present city of BAREILLY, his first work was to cut down the jungle and expel the Katheriyas. The ancient Bráhmanical kingdoms of the Middle Land, or Madhya-desha, in the North-Western Provinces and Oudh, were surrounded by non-Aryan peoples. All the legendary advances beyond the centre of Aryan civilisation, narrated in the epic poets, were made into the territory of non-Aryan races. When we begin to catch historic glimpses of India, we find the countries around the Aryan centre ruled by non-Aryan princes. The Nandas, whom Chandra Gupta succeeded in Behar, were a Súdra or non-Aryan dynasty; and, according to one account, Chandra Gupta and his grandson Asoka came of the same stock.[1]

Pre-Aryan kingdoms in Northern India.

The Buddhist religion did much to incorporate the pre-Aryan tribes into the Indian polity. During the long struggle against Greco-Bactrian and Scythian inroads (327 B.C. to 544 A.D.), the Indian aboriginal races must have had an ever-increasing importance, whether as enemies or allies. At the end of that struggle, we discover them in some of the fairest tracts of Northern India. In almost every District throughout Oudh and the North-Western Provinces, ruined towns and forts are ascribed to aboriginal races who ruled at different periods, according to the local legends, between the 5th and 11th centuries A.D. When the Muhammadan conquest supplies a historical footing after 1000 A.D., non-Aryan tribes were in possession of some of these Districts, and had been lately ousted from others.

The Takshaks of Ráwal Pindi District.

The Statistical Survey has brought together many survivals of these obscure races. It would be impossible to follow that survey through each locality; but I propose, with the utmost

Rájput tribes are believed to be of Scythic origin, while others have been incorporated from confessedly non-Aryan tribes (pp. 205, 271). Such non-Aryan Rájputs more than outnumber any survivals of the Vaisyas of pure Aryan descent.

[1] The *Mudrá-rákshasa* represents Chandra Gupta as related to the last of the Nandas; the Commentator of the *Vishnu Purána* says he was the son of a Nanda by a low-caste woman. Prof. Dowson's *Dict. Hindu Mythology*, etc., p. 68 (Trübner, 1879).

brevity, to indicate a few of the results. Starting from the West, Alexander the Great found the RAWAL PINDI District in the hands of the Takkas or Takshaks, from whom its Greek name of Taxila was derived. This people has been traced to a Scythian migration about the 6th century B.C.[1] Their settlements in the 4th century B.C. seem to have extended from the Paropamisan range[2] in Afghánistán to deep into Northern India. Their Punjab capital, Takshásila, or Taxila, was the largest city which Alexander found between the Indus and the Jhelum (327 B.C.).[3] Salihávana, from whom the Sáka or Scythian era took its commencement (78 A.D.), is held by some authorities to have been of Takshak descent.[4] In the 7th century A.D., Taki,[5] perhaps derived from the same race, was the capital of the Punjab. The Scythic Takshaks, indeed, are supposed to have been the source of the great Serpent Race, the Takshakas or Nágás, who figure so prominently in Sanskrit literature and art, and whose name is still borne by the Nágá tribes of our own day. The words Nágá and Takshaka in Sanskrit both mean a 'snake,' or tailed monster. As the Takshakas have been questionably connected with the Scythian Takkas, so the Nágás have been derived, by conjecture in the absence of evidence, from the Tartar patriarch Nagas, the second son of Elkhán.[6] The two names, however, seem to have been loosely applied by the Sanskrit writers to a variety of non-Aryan peoples in India, whose religion was of an anti-Aryan type. We learn, for example, how the five Pándava brethren of the Mahábhárata burned out the snake-king Takshaka from his primeval Khándava forest. The Takshaks and Nágás were the tree and serpent worshippers, whose rites and objects of adoration have impressed themselves deeply on the architecture and sculptures of India. The names were applied in a confused manner to different races of Scythic

The Takshaks.

6th Century B.C.

327 B.C.

78 A.D.

633 A.D.

The Nágás.

[1] Such dates have no pretension to be anything more than intelligent conjectures based on very inadequate evidence. With regard to the Takshaks, see Colonel Tod and the authorities which he quotes, *Rájásthán*, vol. i. p. 53 *passim*, pp. 93 *et seq.* (Madras Reprint, 1873).

[2] Where Alexander found them as the Parae-takae—*pahari*, or Hill Takae (?).

[3] Arrian. The Bráhman mythologists, of course, found an Aryan pedigree for so important a person as King Taksha, and make him the son of Bharata and nephew of Ráma-chandra!

[4] Tod, *Rájásthán*, vol. i. p. 95 (ed. 1873).

[5] Taki, or Asarur, 45 miles west of Lahore. General Cunningham, *Anc. Geog. of Ind.*, p. 191, and Map VI. (ed. 1871). This Taki lies considerably to the south-east of the Takshásila of Alexander's expedition.

[6] Tod, *Rájásthán*, vol. i. p. 53 (ed. 1873); a doubtful authority.

origin. The chief authority on Tree and Serpent Worship in India has deliberately selected the term 'Scythian' for the anti-Aryan elements, which entered so largely into the Indian religions both in ancient and modern times.[1] The Chinese records give a full account of the Nágá geography of ancient India. The Nágá kingdoms were both numerous and powerful, and Buddhism derived many of its royal converts from them. The Chinese chroniclers, indeed, classify the Nágá princes of India into two great divisions, as Buddhists and non-Buddhists. The serpent-worship, which formed so typical a characteristic of the Indo-Scythic races, led the Chinese to confound them with the objects of their adorations; and the Indo-Scythic Nágás would almost seem to be the originals of the Dragon races of Chinese Buddhism and Chinese art. I shall speak of the compromises to which Buddhism submitted, with a view to winning the support of the Nágá peoples, when I come to describe the rise of Hinduism.

Indo-Scythic Nágás; the Dragon-races of China.

As the Greek invaders found Ráwal Pindi District in possession of a Scythic race of Takkas in 327 B.C., so the Musalmán conqueror found it inhabited by a fierce non-Aryan race of Ghakkars thirteen hundred years later. The Ghakkars for a time imperilled the safety of Mahmúd of Ghazní in 1008. Ferishta describes them as savages addicted to polyandry and infanticide. The tide of Muhammadan conquest rolled on, but the Ghakkars remained in possession of their submontane tract.[2] In 1205, they ravaged the Punjab to the gates of Lahore; in 1206, they stabbed the Muhammadan Sultán in his tent; and in spite of conversion to Islám by the sword, it was not till 1525 that they made their submission to the Emperor Bábar in return for a grant of country. During the next two centuries they rendered great services to the Mughal dynasty against the Afghán usurpers, and rose to high influence in the Punjab. Driven from the plains by the Síkhs in 1765 A.D., the Ghakkar chiefs maintained their independence in the Murree (Marri) Hills till 1830, when they were crushed after a bloody struggle. In 1849, Ráwal Pindi passed, with

The Ghakkars of Ráwal Pindi, 1008-1857 A.D.

[1] Dr. J. Fergusson's *Tree and Serpent Worship*, pp. 71, 72 (India Museum, 4to, 1868). For the results of more recent local research, see Mr. Rivett-Carnac's papers in the *Journal of the As. Soc., Bengal*, 'The Snake Symbol in India,' 'Ancient Sculpturings on Rocks,' 'Stone Carvings at Máinpurí,' etc.; the Honourable Ráo Sáhib Vishvanáks Náráyan Mandlik's 'Serpent-Worship in Western India,' and other essays in the *Bombay As. Soc. Journal;* also, Reports of Arch. Survey, Western India.

[2] For a summary of their later history, see article on RAWAL PINDI DISTRICT, *Imperial Gazetteer of India*, vol. viii.

the rest of the Síkh territories, under British rule. But the Ghakkars revolted four years afterwards, and threatened Murree, the summer capital of the Punjab, as lately as 1857. They now number only 10,153 persons; described by the British officers as 'a fine spirited race, gentlemen in ancestry and bearing, and clinging under all reverses to the traditions of noble blood.'[1]

Pre-Aryans of Bareilly District.

I have selected the inhabitants of Ráwal Pindi District to illustrate the long-continued presence and vitality of the pre-Aryan element in India. I shall deal more briefly with other parts of the country. Proceeding inwards to the North-Western Provinces, we everywhere find traces of an early Buddhist civilisation having been overturned by rude non-Aryan tribes. In Bareilly District, for example, the wild Ahírs from the north, the Bhíls from the south, and the Bhars from the east, seem to have expelled highly developed Aryan communities at some period before 1000 A.D. Still farther to the east, all remains of prehistoric masonry in Oudh and the North-Western Provinces, are assigned to the ancient Buddhists or to a non-Aryan race of Bhars. The Bhars appear to have possessed the north Gangetic plains in the centuries coeval with the fall of Buddhism. Their kingdoms extended over most of Oudh; lofty mounds covered with ancient groves mark the sites of their forgotten cities; and they are the mysterious 'fort-builders' to whom the peasantry ascribe any ruin of unusual size. In the western Districts, their power is said to have been crushed by the Sharki dynasty of Jaunpur in the end of the 14th century. In the eastern Districts of the north Gangetic plain, the Bhars figure still more prominently in local traditions, and an attempt has been made to trace their continuous history. In GORAKHPUR DISTRICT, the aboriginal Tharus and Bhars seem to have overwhelmed the early outposts of Aryan civilisation several centuries before Christ. Their appearance on the scene is connected with the rise of Buddhism. They became vassals of the Buddhist kingdom of Behar on the south-east; and on the fall of that power, about 550 A.D., the Bhars regained their independence. The Chinese pilgrim in the 7th century comments in this region on the large number of monasteries and towers—the latter probably a monument of the struggle with the aboriginal Bhars, who were here finally crushed between the 7th and the 10th centuries A.D.

The Bhars in Oudh.

In Jaunpur.

In Gorakhpur.

As we advance still farther eastwards into Bengal, we find that

[1] *Imperial Gazetteer of India, post,* vol. viii. pp. 45-48.

the non-Aryan races have within historical time supplied a large part of the Hindu population. In the north, the Koch established their dominion upon the ruins of the Aryan kingdom of Kámrúp, which the Afghán King of Bengal had overthrown in 1489. The Koch gave their name to the Native State of KUCH BEHAR; and their descendants, together with those of other non-Aryan tribes, form the mass of the people in the neighbouring British Districts, such as RANGPUR. One part of them got rid of their low origin by becoming Musalmáns, and thus obtained the social equality which Islám grants to all mankind. The rest have merged more or less imperfectly into the Hindu population; and many of them claim, in virtue of their position as an old dominant race, to belong to the Kshattriya caste. They call themselves Rájbansís, a term exactly corresponding to the Rájputs of Western India. The Hinduized Rájás of Kuch Behar obtained a divine origin from their Bráhman genealogists, in order to conceal their aboriginal descent; and all remembrance of the Koch tribe was carefully avoided at court. The present Rájá married the daughter of the celebrated theistic apostle, Keshab Chandra Sen of Calcutta.

The Koch of Northern Bengal.

In Kuch Behar.

In Rangpur.

Kuch Behar Rájás.

Proceeding still eastwards, the adjacent valley of Assam was, until the last century, the seat of another non-Aryan ruling race. The Ahams entered Assam from the south-east about 1350 (?) A.D.; had firmly established their power in 1663; gradually yielded to Hinduism; and were overpowered by fresh invasions from Burma between 1750 and 1825, when the valley was annexed to British India. The Ahams have been completely crushed as a dominant race; and their old national priests, to the number of 179,000, have been forced to become tillers of the soil for a living. But the people of Assam are still so essentially made up of aboriginal races and their Hinduized descendants, that not 65,000 persons of even alleged pure Aryan descent can be found in a population exceeding 4 millions.[1]

Ahams of Assam.

I have hitherto confined my survey to the country on the north of the Ganges. If we pass to the southern Gangetic plain, we find that almost every tract has traditions of a pre-Aryan tribe, either as a once dominant race or as lying at the root of the local population. The great Division of Bundel-

Pre-Aryan element south of the Ganges.

[1] The Bráhmans number only 58,528 (being fewer than the Kalitás or old priests of the Ahams), out of a total population in Assam of 4,132,019; while the Koch alone number about 300,000, and even the crushed Ahams 128,980. See *ante*, vol. i. pp. 240-241; 245 *et seq*.

Aborigines in Central India; khand contains several crushed peoples of this class, and takes its name from the Bundelas, a tribe of at least semi-aboriginal descent. As we rise from the Gangetic plain into the highlands of the Central Provinces, we reach the abiding home of the non-Aryan tribes. One such race after another—Gaulís, Nágás, Gonds, Ahírs, Bhíls—ruled from the Sátpura plateau.[1] Some of their chiefs and leading families now claim to be Kshattriyas; and a section of one of the lowest races, the Chauháns, borrowed their name from the noble 'Chauhán' Rájputs.

in Lower Bengal; In the Lower Provinces of Bengal, we find the delta peopled by masses of pre-Aryan origin. One section of them has merged into low-class Hindus; another section has sought a more equal social organization by accepting the creed of Muhammad. But such changes of faith do not alter their ethnical type; and the Musalmán of the delta differs as widely in race from the Afghán, as the low-caste Hindu of the delta differs from the Bráhman. in Southern India. Throughout Southern India, the non-Aryan elements form almost the entire population, and have supplied the great Dravidian family of languages, which are spoken by 46 millions of people. Two of our oldest and most faithful allies in the Madras Presidency, the enlightened dynasty of Travancore, and the ancient princes of Púdúkotta, are survivals of the time when non-Aryan sovereigns ruled over Southern India.

RISE OF HINDUISM. From these diverse races, pre-Aryan, Aryan, and Scythic, the population of India has been made up. The task of organizing them fell to the Bráhmans. That ancient caste, which had never quitted the scene even during the height of the Buddhistic supremacy, stepped forward to the front of the stage upon the decay of the Buddhist faith. The Chinese pilgrim, about 640 A.D., had found Bráhmanism and Buddhism co-existing throughout India. The conflict of creeds brought forth a great line of Bráhman apostles, from the 8th to the 16th century A.D., with occasional successors down to our own day. The disintegration of Buddhism, as we have seen, occupied many hundred years, perhaps from 300 to 1000 A.D.[2] But the Hindus take the beginning of

[1] See CENTRAL PROVINCES, *ante*, vol. ii. pp. 354-363. The Gaulís are locally believed to have been earlier fort-builders than the Gonds (see for example, SAONER, *post*, vol. viii.); and some of the Gond chiefs trace their descent through 54 generations to a well-recorded ancestor assigned to 91 A.D. (see for example, SARANGHAR, *post*, vol. viii.).

[2] See *ante*, pp. 256-258. From the language of the Saddharma Pun-

the 8th century as the turning-point in the struggle. About 750 A.D., they say, arose a holy Bráhman of Bengal, Kumárila by name, preaching the old Vedic doctrine of a personal Creator and God. Before this realistic theology, the impersonal abstractions of the Buddhists succumbed; and according to a later legend, the reformer wielded the sword of the flesh not less trenchantly than the weapons of the spirit. A Sanskrit writer[1] of the 14th century A.D. relates how his royal follower Sudhanwan, a prince in Southern India, 'commanded his servants to put to death the old men and the children of the Buddhists, from the bridge of Ráma [the ridge of reefs which connects India with Ceylon] to the Snowy Mountain: let him who slays not, be slain.'

Kumárila, 750 (?) A.D.

Persecution (?) of Buddhism.

It is needless to say that no sovereign existed at that time in India whose power to persecute extended from the Himálayas to Cape Comorin. So far as the legend has any truth, it refers, as we shall see, to one of the local religious reprisals which doubtless took place at many of the Indian courts during the struggle between the Buddhists and the Bráhmans, as in later days, and on a smaller scale, between the rival Hindu sects. The legend of Kumárila is valuable, however, as placing on a religious basis the series of many-sided evolutions which resulted in Hinduism. These evolutions were the result of ethnical processes, more subtle than the scheming of any caste of men. The Bráhmans gave a direction to Hinduism, but it was the natural development of the Indian races which produced it.

True value of the legend.

Hinduism is a social organization and a religious confederacy. As a social organization, it rests upon caste, with its roots deep down in the ethnical elements of the Indian people. As a religious confederacy, it represents the coalition of the old Vedic faith of the Bráhmans with Buddhism on the one hand, and with the ruder rites of the pre-Aryan and Indo-Scythic races on the other. I shall briefly glance at its two aspects.

Twofold basis of Hinduism; caste and religion.

The ethnical basis of caste is disclosed in the old division of the people into the 'twice-born' Aryan castes, including

Caste basis of Hinduism.

daríka, translated into Chinese before the end of the 3rd century A.D., H. H. Wilson infers that even at that early date 'the career of the Buddhists had not been one of uninterrupted success, although the opposition had not been such as to arrest their progress' (*Essays*, vol. ii. p. 366, ed. 1862). The existence of Buddhism is abundantly attested to 1000 A.D.

[1] Mádhava - Achárya, quoted by H. H. Wilson, *ut supra*. See also Lassen's *Indische Alterthumskunde*, vol. iv. pp. 708 *et seq.*; and Colebrooke's *Essays*, p. 190.

The race-origin of caste.

the Bráhmans, Kshattriyas, and Vaisyas; and the 'once-born' non-Aryan Súdras. The Census proves that this classification remains the fundamental one to the present day. The 'twice-born' castes still wear the sacred thread, and claim a joint, although an unequal, inheritance in the holy books of the Veda. The 'once-born' castes are still denied the sacred thread, and their initiation into the religious literature of the Indo-Aryans has only been effected by the secular teaching of our Anglo-Indian schools. But while caste is thus deeply founded in the distinctions of race, its superstructure has been regulated by another system of division, based on the occupations of the people. The early classification of the people may be expressed either ethnically as 'twice-born' Aryans, and 'once-born' non-Aryans; or socially, as priests, warriors, husbandmen, and serfs. On the two principles of classification, according to race and according to employment, still further modified by geographical position, has been built up the ethnical and social organization of Indian caste.

Modified by 'occupation' and 'locality.'

Complexity of caste.

From these cross-divisions arises an excessive complexity, which must render any brief exposition of caste superficial. For at every point in our analysis, we find ourselves in the presence of two sets of phenomena based upon distinct principles of classification; and of a third set of phenomena arising from the coalition of, or compromises between, the two. As a rule, it may be said that the Aryan or 'twice-born' castes adhere most closely to the ethnical principle of division; the 'once-born' or distinctly non-Aryan to the same principle, but profoundly modified by the concurrent principle of employment; while the mixed progeny of the two are almost entirely classified in modern times according to their occupation. But such generalizations must be taken as subject to many exceptions; and at every point distinctions according to locality make themselves felt. Thus, even among the Bráhmans, whose pride of race and continuity of tradition should render them the firmest ethnical unit among the Indian castes, classification by employment and by geographical situation plays a very important part; and the Bráhmans, so far from being a compact unit, are made up of several hundred castes, who cannot intermarry, nor eat food cooked by each other. They follow every employment, from the calm *pandits* of Behar in their stainless white robes, or the haughty priests of Benares, to the potato-growing Bráhmans of Orissa, 'half-naked peasants, struggling along under

Even the Bráhmans not an ethnical unit.

their baskets of yams, with a filthy little Bráhmanical thread over their shoulder.'[1]

The Bráhman caste analyzed.

In many parts of India, Bráhmans may be found earning their livelihood as porters, shepherds, cultivators, potters, and fishermen, side by side with others who would rather starve and see their wives and little ones die of hunger, than demean themselves to manual labour, or let food prepared by a man of inferior caste pass their lips. Classification by locality introduces another set of distinctions among the Bráhmans. In Lower Bengal jails, a convict Bráhman from Behar or the North-Western Provinces used to be highly valued, as the only person who could prepare food for all classes of Bráhman prisoners. In 1864, I saw a Bráhman felon try to starve himself to death, and submit to a flogging rather than eat his food; on account of scruples as to whether the birthplace of the North-Western Bráhman, who had cooked it, was equal in sanctity to his own native district. The Bráhmans are popularly divided into ten great septs, according to their locality; five on the north, and five on the south of the Vindhyá range.[2] But the minor distinctions are innumerable. Thus, the first of the five northern septs, the Sáraswatas in the

[1] See *Orissa*, vol. i. pp. 238 *et seq.* (ed. 1872), where I have devoted 25 pages to the diversities of the Bráhmans in occupation and race. Also *Hindu Tribes and Castes*, by the Rev. M. A. Sherring, Introd. xxi. vol. ii. (4to, Calcutta, 1879).

[2] Thus tabulated according to a Sanskrit mnemonic *Sloka* :—

I. The five Gauras north of the Vindhyá range—
- (1) The *Sáraswatas*, so called from the country watered by the river Saraswatí.
- (2) The *Kányakubjas*, so called from the Kányakubja or Kanauj country.
- (3) The *Gauras* proper, so called from Gaur, or the country of the Lower Ganges.
- (4) The *Utkalas*, of the Province of Utkala or Odra (Orissa).
- (5) The *Maithilas*, of the Province of Mithila (Tirhut).

II. The five Dravidas south of the Vindhyá range—
- (1) The *Maháráshtras*, of the country of the Maráthí language.
- (2) The *Andhras* or *Tailangas*, of the country of the Telugu language.
- (3) The *Dravidas* proper, of the country of the Dravidian or Tamil language.
- (4) The *Karnátas*, of the Karnátika, or the country of the Canarese language.
- (5) The *Gurjaras*, of Gurjaráshtra or country of the Gujarátí language.

—*Indian Caste*, by the late John Wilson, D.D. (of Bombay), ii. p. 17.

Punjab, consist of 469 classes.[1] Mr. Sherring enumerates 1886 separate Bráhmanical tribes.[2] Dr. Wilson, of Bombay, carried his learned work on Caste to the length of two volumes, aggregating 678 pages, before his death; but he had not completed his analysis of even a single caste—the Bráhmans.

The lower castes still more complex.

It will be readily understood, therefore, how numerous are the Subdivisions, and how complex is the constitution, of the lower castes. The Rájputs now number 590 separately named tribes in different parts of India.[3] But a process of synthesis as well as of analysis has been going on among the Indian peoples. In many outlying Provinces, we see non-Aryan chiefs and warlike tribes turn into Aryan Rájputs before our eyes.[4] I have elsewhere cited well-known legends of large bodies of aliens being from time to time incorporated even into the Bráhman caste.[5] But besides these 'manufactured Bráhmans,' and the ethnical syncretisms of which they are surviving types, there has been a steady process of amalgamation among the Hindus by mixed marriage.[6] The Súdras, says Mr. Sherring, 'display a great intermingling of races. Every caste exhibits this confusion. They form a living and practical testimony to the fact that in former times the upper and lower classes of native society, by which I mean the Hindu and non-Hindu population of India, formed alliances with one another on a prodigious scale, and that the offspring of these alliances were in many instances gathered together into separate castes and denominated Súdras.'[7]

The building up of castes.

The slow development of Hindu marriage law.

The Hindu custom now forbids marriage between (1) persons of the same *gotra* or kindred, and (2) persons of different castes. But this precise double rule has been arrived at only after many intermediate experiments in endogamous and exogamous tribal life. The transitions are typified by the polyandry of Draupadí in the Mahábhárata, and by the multitudinous

[1] Compiled by Pandit Rádhá Krishna, quoted by Dr. J. Wilson, *Indian Caste*, part ii. pp. 126-133.

[2] *Hindu Tribes and Castes*, pp. xxii.-xlvi. vol. ii. (4to, Calcutta, 1879).

[3] Sherring, *Hindu Tribes and Castes*, vol. ii. pp. lv.-lxv.

[4] *Vide ante*, pp. 204, 205, 271, 272, 274, 275, footnote. Also Sherring, *Hindu Tribes and Castes*, vol. ii. p. lxvii.

[5] *Orissa*, vol. i. p. 247 (in Oudh), p. 248 (in Bhágalpur), p. 254 (in Malabar), etc.

[6] See two interesting articles from opposite points of view, on the synthetic aspects of caste, by the Rev. Mr. Sherring, of Benares, and by Jogendra Chandra Ghose, in the *Calcutta Review*, Oct. 1880.

[7] *Calcutta Review*, cxlii. p. 225.

caste customs relating to marriage, inheritance, and the family tie, which survive to this day. Such survivals constitute an important branch of law, in fact, the 'common law' of India, and furnish one of the chief difficulties in the way of Anglo-Indian codification.[1] Thus, to take a single point, the rules regarding marriage exhibit every phase from the compulsory polyandry of the Nairs, the permissive polyandry of the Játs, and the condonement of adultery with a husband's brother or kinsman among the Kárakat Vellálars of Madura; to the law of Levirate among the Ahírs and Nuniyás, the legal remarriage of widows among the low-caste Hindus, and the stringent provisions against such remarriages among the higher ones. Among the Koils, although polyandry is forgotten, the right of disposing of a girl in marriage still belongs, in certain cases, to the *maternal* uncle,—a relic of the polyandric system of succession through females. This tribe also preserves the form of marriage by 'capture.'

Survivals of the process.

The *Bráhmanas* indicate that the blood of the Hindus was, even in the early post-Vedic period, greatly intermingled.[2] The ancient marriage code recognised as lawful, unions of men of higher caste with females from any of the lower ones, and their offspring[3] had a quite different social status from the progeny[4] of illicit concubinage. The laws of Manu disclose how widely such connections had influenced the structure of Indian society 2000 years ago; and the Census of 1872 proved that the mixed castes still make up the great body of the Hindu population. In dealing with Indian caste, we must therefore allow not only for the ethnical and geographical elements into which it is resolvable, but also for the synthetic processes by which it has been built up.

Ancient mingling of castes.

The same remark applies to the other principle of classifi-

The 'occupation' basis of caste.

[1] See *ante*, pp. 228, 229. Among many treatises on this subject, Arthur Steele's *Law and Custom of Hindu Castes* (1868) deals with Western India; Nelson's *View of Hindu Law* (1877), and Burnell's *Dayavibhága*, etc., may be quoted for the Madras Presidency; Beames' admirable edition of Sir Henry Elliot's *Tribes of the North-Western Provinces*, and Sherring's *Hindu Tribes* (besides a number of more strictly legal treatises), for Bengal.

[2] The *Taittiríya Bráhmana* of the Krishna Yajur Veda (quoted by Dr. J. Wilson, *Caste*, i. pp. 127-132) enumerates 159 castes.

[3] *Anuloma.*

[4] *Pratiloma.* For an arrangement of 134 Indian castes, according to their origin, or 'procession' from (1) regular full marriage by members of the same caste, (2) *anuloma*, (3) *pratiloma*, (4) *Vrátya-Santati*, (5) adultery, (6) incest, (7) degeneration; see Dr. J. Wilson, *Indian Caste*, ii. pp. 39-70.

cation on which caste rests, namely, according to the employments of the people. On the one hand, there has been a tendency to erect every separate employment in each separate Province into a distinct caste. On the other hand, there has been a practice (which European observers are apt to overlook) of the lower castes changing their occupation, and in some cases deliberately raising themselves in the social scale.

Changes of 'occupation' by castes.

Thus the Vaisya caste, literally the *vis* or body of the Aryan settlers, were in ancient times the tillers of the soil. They have gradually abandoned this laborious occupation to the Súdra and mixed castes, and are now the merchants and bankers of India. 'Fair in complexion,' writes the most accurate of recent students of caste,[1] 'with rather delicate features, and a certain refinement depicted on their countenances, sharp of eye, intelligent of face, and polite of bearing,' the Vaisyas 'must have radically changed since the days when their forefathers delved, sowed, and reaped.' Indeed, so great is the change, that a heated controversy is going on in Hindu society as to whether the Bengali *baniás*, or merchant-bankers, are really of Vaisya descent.

The Vaisyas.

Such a rise in the social scale is usually the unconscious work of time, but there are also legends of distinct acts of self-assertion by individual castes. In Southern India, the goldsmiths strenuously resisted the rule of the Bráhmans, and for ages claimed to be the true spiritual guides, styling themselves *áchá́ryas*, 'religious teachers,' and wearing the sacred thread. Their pretensions are supposed to have given rise to the great division of castes in Madras, into the 'Right-hand,' or the cultivating and trading castes who supported the Bráhmans; and the 'Left-hand,' chiefly handicrafts which sided with the artisan opposition to Bráhman supremacy.[2] In Bengal, that opposition came from the literary class. The Dattas, a sept of the Káyasth or writer-caste, formally renounced the position assigned to them in the Bráhmanical classification of Hindu society. They claimed to rank next to the Bráhmans, and thus above all the other castes. They failed; but a native author[3] states that one of their body, within the

Goldsmiths of Madras.

The Dattas of Bengal.

[1] The Rev. M. A. Sherring, deceased, alas, since the above was written, after a life of noble devotion and self-sacrifice to the Indian people. *Calcutta Review*, October 1880, p. 220.

[2] This subject is involved in much obscurity. I reproduce, without criticism, the explanation given in Nelson's *View of the Hindu Law*, as administered by the High Court of Madras, p. 140 (Madras, 1877). Cf. the 'right-hand' and 'left-hand' worshippers of Sakti, *post*, pp. 303, 304.

[3] Jogendra Chandra Ghose, *Calcutta Review*, cxlii. p. 279 (October 1880).

memory of men still living, maintained his title, and wore the sacred thread of the pure 'twice-born.' The Statistical Survey of India has disclosed many self-assertions of this sort, although of a more gradual character and on a smaller scale. Thus, in Eastern Bengal, where land is plentiful, the Sháhas, a section of the Surís or degraded spirit-sellers, have, in our own time, advanced themselves into a respectable cultivating caste, and are now prosperous traders. Some of the Telís or oil-pressers in Dacca District, and certain of the Támbulís or *pán* growers in Rangpur, have in like manner risen above their hereditary callings, and become bankers and grain merchants.

The Sháhas.

Telís, Támbulís, etc.

There is therefore a plasticity as well as a rigidity in caste. Its plasticity has enabled it to adapt itself to widely separated stages of social progress, and so to incorporate within itself the various ethnical elements which make up the Indian people. Its rigidity has given strength and permanence to the corporate body thus formed. Hinduism is internally loosely coherent, but it has great powers of resistance to external pressure. Each caste is to some extent a trade-guild, a mutual assurance society, and a religious sect. As a trade-union, it insists on the proper training of the youth of its craft, regulates the wages of its members, deals with delinquents, and promotes good fellowship by social gatherings. The famous fabrics of mediæval India, and its chief local industries in our own day, were developed under the supervision of caste or trade guilds of this sort. Such guilds may still be found in many parts of India, but not always with the same complete development.[1] In AHMEDABAD DISTRICT[2] each different trade or manufacture forms a separate guild. All heads of artisan households are ranged under their proper guild. The objects of the guild are to regulate competition among the members, and to uphold the interest of the body in any dispute arising with other craftsmen. To moderate competition, the guild appoints certain days as trade holidays, when any member who works is punished by a fine. A special case occurred in 1873 among the Ahmedábád bricklayers. Men of this class sometimes added 3d. to their daily wages by working extra time in the early morning. But several families were thrown out of employment; and accordingly the guild met, and decided that as there was not

Plasticity and rigidity in caste.

Caste, as a system of trade-guilds.

Its regulation of wages.

[1] The Statistical Accounts or Gazetteers of the Bombay Districts devote a special section to such trade-guilds in every District.

[2] See the article, *Imperial Gazetteer*, vol. i. pp. 65, 66.

employment for all, no man should be allowed to work extra time.

Working of the trade-guild.

The decisions of the guild are enforced by fines. If the offender refuses to pay, and the members of the guild all belong to one caste, the offender is put out of caste. If the guild contains men of different castes, the guild uses its influence with other guilds to prevent the recusant member from getting work. The guild also acts in its corporate capacity against other crafts. For example, in 1872, the Ahmedábád cloth-dealers resolved among themselves to reduce the rates paid to the sizers or *tágiás*. The sizers' guild refused to prepare cloth at the lower rates, and remained six weeks on strike. At length a compromise was arrived at, and both guilds signed an agreement on stamped paper. Besides its punitive fines, the guild draws an income from fees on persons beginning to practise its craft. This custom prevails at Ahmedábád in the cloth and other industries. But no fee is paid by potters, carpenters, and inferior artisans. An exception is made, too, in the case of a son succeeding to his father, when nothing has to be paid. In other cases, the amount varies, in proportion to the importance of the trade, from £5 to £50. The revenue derived from these fees and from fines is expended in feasts to the members of the guild, in the support of poor craftsmen or their orphans, and in charity. A favourite device for raising money in Surat is for the members of a trade to agree to keep a certain date as a holiday, and to shut up all their shops except one. The right to keep open this one shop is let by auction, and the amount bid is credited to the guild-fund.

An Indian 'strike.'

Guild funds.

Guild charities.

Trade-interests *v.* caste:

Within the guild, the interests of the common trade sometimes overpower the race element of the caste. Thus, in Surat, each class of craftsmen, although including men of different castes and races, combine to form a guild, with a council, a head-man, and a common purse for charity and entertainments. But indeed, in Ahmedábád, Broach, and many industrial centres, the trade organization into guilds exists side by side with the race-structure of caste. A two-fold organization also appears in the village community. Caste regulates the theoretical position of any family within it; but the low-castes often claim the headship in the village government. In the Bárásat Sub-district in Bengal, of 5818 enumerated village heads, only 15 were Bráhmans or Rájputs, 4 were Káyasths, while 3524 belonged to the Súdra or inferior castes, down to the detested cow-skinners and corpse-bearers;

in trade centres;

in the village community.

the balance being Muhammadans, with 13 native Christians. In Southern India, the village head is sometimes of so low a caste that he cannot sit under the same roof with his colleagues in the village government. He therefore hands up his staff, which is set in the place of honour, while he himself squats on the ground outside. The trade-guild in the cities, and the village community throughout the country, act, together with caste, as mutual assurance societies, and in ordinary times allow none of their members to starve. Caste and the trading or agricultural guilds concurrent with it, take the place of a poor-law in India.

Caste and 'mutual insurance.'

No 'poor-law' in India.

Caste rewards.

It is obvious that such an organization must have some weapons for defending itself against lazy or unworthy members. The responsibility which the caste discharges with regard to feeding its poor, would otherwise be liable to abuses. As a matter of fact, the caste or guild exercises a surveillance over each of its members, from the close of childhood until death. If he behave well, he will rise to an honoured place in his community, and the desire for such local distinction amounts to an important influence in the life of a Hindu. But the caste has its punishments as well as its rewards. Those punishments consist of fine and excommunication. The fine usually takes the form of a compulsory feast to the male members of the caste. This is the ordinary means of purification, or of making amends for breaches of the caste code. Excommunication inflicts three penalties: First, an interdict against eating with the fellow-members of the caste. Second, an interdict against marriage within the caste. This practically amounts to debarring the delinquent and his family from respectable marriages of any sort. Third, cutting off the delinquent from the general community, by forbidding him the use of the village barber and washerman, and of the priestly adviser. Except in very serious cases, excommunication is withdrawn upon the submission of the offender, and his payment of a fine. But the caste punishments exercise an efficacious restraint upon the unworthy members of the community, precisely as the caste rewards supply a powerful motive of action to the good ones. A member who cannot be controlled by this mixed discipline of punishment and reward is eventually expelled; and, as a rule, an 'out-caste' is really a bad man. Imprisonment in jail carries with it, *ipso facto*, that penalty; but may be condoned after release, by heavy expiations.

Caste punishments.

Such is a brief survey of the nature and operation of caste.

Recapitulation of caste.

But the cross-divisions on which the institution rests; its conflicting principles of classification according to race, employment, and locality; the influence of Islám in Northern India; of the 'right-handed' and 'left-handed' branches in the south;[1] and the modifications everywhere effected by social or sectarian movements, render a short account of caste full of difficulties.

The religious basis of Hinduism.

Hinduism is, however, not only a social organization resting upon caste; it is also a religious federation based upon worship. As the various race elements of the Indian people have been welded into caste, so the simple old beliefs of the Veda, the mild doctrines of Buddha, and the fierce rites of the non-Aryan tribes have been thrown into the melting-pot, and poured out thence as a mixture of alloy and dross to be worked up into the Hindu gods. In the religious as in the social structure, the Bráhmans supplied the directing brain-power. But both processes resulted from laws of human evolution, deeper than the workings of any individual will; and in both the product has been, not an artificial manufacture, but a natural development. Hinduism merely forms one link in the golden chain of Indian religions. I have shown that the earthly career of Buddha was but a spiritualized rendering of the heroic Aryan life as recorded in the Indian epics. Indeed, the discipline of the Buddhists organized so faithfully the prescribed stages of a Bráhman's existence, that it is difficult to decide whether the *Sarmanai* of Megasthenes were Buddhist clergy or Bráhman recluses. If accurate scholarship cannot accept Buddhism as simply the Sánkhya philosophy turned into a national religion,[2] it readily admits that Buddhism and Bráhmanism are united by intermediate links. An early set of these links is found in the *darsanas*, or philosophical systems between the Vedic period and the establishment of Buddhism as a national religion under Asoka (1400? to 250 B.C.). A later set is preserved in the compromises effected during the final struggle between Buddhism and Bráhmanism, ending in the reassertion of the latter in its new form as the religion of the Hindus (300 to 1000 A.D.).

Its stages of evolution.

Buddhist influences on Hinduism.

Buddhism not only breathed into the new birth its noble spirit of charity, but bequeathed to Hinduism many of its institutions unimpaired, together with its scheme of religious life, and the material fabric of its worship. At this day, the

[1] The *Valankei* and *Yedankei*, *ante*, p. 286. See Crole's *Chingleput District*, pp. 33-34 (1879).
[2] *Ante*, p. 255.

mahájan or bankers' guild, in Surat, devotes part of the fees that it levies on bills of exchange to animal hospitals; true survivals of Asoka's second edict, which provided a system of medical aid for beasts, 250 years before Christ. The cenobitic life, and the division of the people into laity and clergy, have passed almost unchanged from Buddhism into some of the Hindu sects. Beast hospitals.

The Hindu monasteries in our own day vie with the Buddhist converts in the reign of Síláditya; and Purí is, in many respects, a modern unlettered Nalanda. The religious houses of the Orissa delta, with their revenue of £50,000 a year,[1] are but the Hindu developments of the Buddhist cells and rock monasteries, whose remains still honeycomb the adjacent hills. If we examine the religious life of the Vishnuvite communities, we find their rules are Buddhistic, with Bráhmanical reasons attached. Thus the moral code of the Kabír Panthís consists of five rules:[2] First, life, whether of man or beast, must not be violated; because it is the gift of God. Second, humanity is the cardinal virtue; and the shedding of blood, whether of man or beast, a heinous crime. Third, truth is the great principle of conduct; because all the ills of life and ignorance of God are due to original falsehood (*máyá*). Fourth, retirement from the world is desirable; because the desires of the world are hostile to tranquillity of soul, and to the undisturbed meditation on God. Fifth, obedience to the spiritual guide is incumbent on all. This last rule is common to every sect of the Hindus. But the Kabír Panthís direct the pupil to examine well his teacher's life and doctrine before he resigns himself to his control. If we did not know that Buddhism was itself an outgrowth from primitive Bráhmanism, we might hold this code to be simple Buddhism, with the addition of a personal God. But knowing as we do that Bráhmanism and Buddhism were themselves closely connected, and that they combined to form Hinduism, it is impossible to discriminate exactly how far the last was made up by direct transmission from either of the other two. Monasteries. The religious life.

I have already alluded to the influence of Buddhism on the Christianity of the western world.[3] Whatever uncertainties may still obscure that question, the effect of Buddhism upon the present faiths of Eastern Asia admits of no doubt. The Buddhist influences on later religions.

[1] Report by the Committee of native gentlemen appointed to inquire into the Orissa *maths*, dated 25th March 1869, par. 15.

[2] H. H. Wilson's *Religion of the Hindus*, vol. i. p. 94 (ed. 1862).

[3] *Ante*, p. 254.

best elements in the teaching of Buddha have survived in modern Hinduism; and Buddhism carried with it many essential doctrines of Bráhmanism to China and Japan. It is difficult to enter a Japanese temple without being struck by the analogies to the Christian ritual on the one hand, and to Hinduism on the other. The chantings of the priests, their bowing as they pass the altar, their vestments, rosaries, bells, incense, and the responses of the worshippers, remind one of the Christian ritual. 'The temple at Rokugo,' writes a recent traveller to a remote town in Japan, 'was very beautiful, and, except that its ornaments were superior in solidity and good taste, differed little from a Romish church. The low altar, on which were lilies and lighted candles, was draped in blue and silver; and on the high altar, draped in crimson and cloth of gold, there was nothing but a closed shrine, an incense burner, and a vase of lotuses.'[1]

A Japanese temple; its analogies to Hinduism and Christianity.

Serpent ornamentation:

In a Buddhist temple at Ningpo, the Chinese goddess of mercy, Kwan-yin, whose resemblance to the Virgin Mary and Child has already been mentioned,[2] is seen standing on a serpent, bruising his head with her heel. The snake ornamentation, which figures so universally in the religion of India, is said to have been carried by Buddhism alike to the east and the west. Thus, the canopy or baldachino over Buddha's head delights in twisted pillars and wavy patterns. These wave-like ornaments are conventionalized into cloud curves in most of the Chinese and Japanese canopies; but some of them still exhibit the original figures thus symbolized as undulating serpents or Nágás. A serpent baldachino of this sort may be seen in a monastery at Ningpo.[3] It takes the place of the cobra-headed canopy, which in India shelters the head of Siva, or of Vishnu as he slept upon the waters at the creation of the world. The twisted columns which support the baldachino at St. Peter's in Rome, and the fluted ornamentation so common over Protestant pulpits, are said to have a serpentine origin, and an eastern source. The association of Buddha with two other figures, in the Japanese temples, perhaps represents a recollection of the Bráhman triad. The idea of trinity, as Buddha, Dharma (the Law), and Sangha (the Congregation), deeply penetrates the faith. The Sacred Tooth at Ceylon is a reproduction of the phallic *linga* of India.

In Hinduism;

In Buddhism;

In Christian art.

Coalition of Buddhism with earlier religions:

Buddhism readily coalesced with the pre-existing religions

[1] Miss Bird's *Unbeaten Tracks in Japan*, vol. i. p. 295 (ed. 1880).
[2] *Ante*, p. 254.
[3] My authority is an unpublished drawing by Miss Gordon Cumming.

of primitive races. Thus, among the hill tribes of Eastern Bengal, we see the Khyoungthas, or 'Children of the River,' passing into Buddhists without giving up their aboriginal rites. They still offer rice and fruits and flowers to the spirits of hill and stream;[1] and the Buddhist priests, although condemning the custom as unorthodox, do not very violently oppose it. In Japan, a Buddhist saint visited the hill-slope of Hotoke Iwa in 767 A.D.; declared the local Shinto deity to be only a manifestation of Buddha; and so converted the ancient high-place into a Buddhist shrine. Buddhism has thus served as a link between the most ancient faiths of India and the modern worship of the eastern world. It has given sanctity to the centres of common pilgrimage, to which the great faiths of Asia resort. Thus, the Siva-worshippers ascend the top of Adam's Peak in Ceylon, to adore the footprint of their phallic god, the *Siva-pada*; the Buddhists repair to the spot to adore the same symbol as the footmark of Buddha; and the Muhammadans to venerate it as the relic of Adam, the Semitic father of mankind. Many common shrines of a similar character exist in India. The famous spot of pilgrimage at Sakhi Sarwar crowns the high bank of a hill stream at the foot of the Suláimáns, in the midst of desert scenery, well adapted to those who would mortify the flesh. To this remote place, the Muhammadans come in honour of a Musalmán saint; the Síkhs to venerate a memorial of their theistic founder, Nának; and the Hindus to perform their own ablutions and rites. The mingled architecture of such pilgrim-shrines attests the various races and creeds which have combined to give them sanctity. Buddhism, which was at first a revolt against Bráhman supremacy, has done much to maintain the continuity between the ancient and the modern religions of India.

In India; In Japan. Shrines common to various faiths. Adam's Peak. Sakhi Sarwar.

Hinduism, however, derived its elements not merely from the two ancient Aryan faiths, the Bráhmanical and the Buddhist. In its popular aspects, it drew much of its strength, and many of its rites, from the Nágá and other non-Aryan peoples of India. Buddhists and Bráhmans alike endeavoured, during their long struggle, to enlist the masses on their side. The Nágá kingdoms were divided, as we have seen, by the Chinese geographers into those which had accepted Buddhism, and those which had not. A chief feature in Nágá-worship was the reverence for dragons or tailed monsters. This reverence found its way into mediæval Buddhism, and became an important element in Buddhist

Non-Aryan elements in Hinduism. Nágá rites.

[1] See my *Statistical Account of Bengal*, vol. vi. p. 40, etc.

Serpent-worship in Hinduism.

mythology. Indeed, the historian of Tree and Serpent worship goes so far as to say that 'Buddhism was little more than a revival of the coarser superstitions of the aboriginal races, purified and refined by the application of Aryan morality.'[1] The great monastery of Nalanda owed its foundation to the supposed influence of a tailed monster, or Nágá, in a neighbouring tank. Many Hindu temples still support colonies of sacred crocodiles; and the scholar who has approached the subject from the Chinese point of view, comes to the conclusion that 'no superstition was more deeply embedded in the [ancient] Hindu mind than reverence for Nágás or dragons. Buddhism from the first had to contend as much against the under current of Nágá reverence in the popular mind, as against the supercilious opposition of the philosophic Bráhman in the upper current. At last, as it would seem, driven to an extremity by the gathering cloud of persecution, the Buddhists sought escape by closing with the popular creed, and endeavouring to enlist the people against the priests; but with no further success than such a respite as might be included within some one hundred years.'[2]

Phallic emblems in Hinduism.

This conception of the process is coloured by modern ideas, but there can be no doubt that Hinduism incorporated many aboriginal rites. It had to provide for the non-Aryan as well as for the Aryan elements of the population, and it combined the Bráhmanism and Buddhism of the Aryans with the fetish-worship and religion of terror which swayed the non-Aryan races. Some of its superstitions seem to have been brought by Turanian or Scythian migrations from Central Asia. Serpent-worship is closely allied to, if indeed it does not take its origin in, that reverence for the symbols of human reproduction which formed one of the most widely spread religions of pre-historic man.[3] Phallic or generative emblems are on earth what the sun is in the heavens. The sun, as the type of celestial creative energy, was a primitive object of Aryan adoration. Later Bráhmanism, and its successor Hinduism,

The Hindu *linga* and *yoni*.

seem to have adopted not only the serpent, but the *linga* and *yoni*, or the terrestrial organs of male and female creative

[1] Fergusson's *Tree and Serpent Worship*, pp. 62, with footnote, *et seq.* (4to, 1868). This view must be taken subject to many limitations.

[2] *Catena of Buddhist Scriptures from the Chinese*, pp. 415, 416. By Samuel Beal. (Trübner, 1871.)

[3] I here acknowledge my obligations to General Forlong for much information on this subject, derived from the proof-sheets of his forthcoming *Rivers of Life*, a work which embodies the patient research of twenty years devoted to the study of phallic religions in Europe and Asia.

energy, from the non-Aryan races. The early Aryan ritual of the Vedas was addressed to the elements, particularly to Fire. The worship of the phallic emblem or *linga* finds only a doubtful sanction, if any at all, in those ancient scriptures;[1] but the Puránas disclose it in full vigour (1000 A.D.); and the Muhammadans found it in every part of India. It is not only the chief religion to the south of the Vindhyás, but it is universally recognised by all Hindus. Such symbolism fitted well into the character of the third person of their triad—Siva, the Reproducer, as well as the All-Destroyer. To the Bráhmans it supplied a popular basis for their abstruse doctrines regarding the male and female energy in nature. Phallic worship harmonized also with their tendency to supply each god with a correlative goddess, and furnished an easily understood symbolism for the *Sákta* sects, or worshippers of the divine creative power,[2] so numerous among the Hindus. For the semi-aboriginal tribes and half-Hinduized low-castes, the conception of Siva as the All-Destroyer and Reproducer, organized on a philosophical basis their old religion of propitiation by blood.[3]

The 'creative energy.

The fetish and tree worship of the non-Aryan races also entered largely into Hinduism. The first Englishman who tried to study the natives as they actually are, and not as the Bráhmans described them, was struck by the universal prevalence of a worship quite distinct from that of the Hindu deities.[4] A Bengal village has usually its local god, which it adores either in the form of a rude unhewn stone, or a stump, or a tree marked with red-lead. Sometimes a lump of clay placed under a tree does for a deity, and the attendant priest, when there is one, generally belongs to one of the half-Hinduized low-castes. The rude stone represents the non-Aryan fetish; and the tree seems to owe its sanctity to the non-Aryan belief that it forms the abode of the ghosts, or gods, of the village.

Fetish-worship in Hinduism

The *sálagrám.*

[1] H. H. Wilson's *Religion of the Hindus*, vol. i. p. 220 (ed. 1862).

[2] *Sakti*; see *post*, pp. 303, 304.

[3] The relation of these rites of the semi-Hinduized low-castes to the religion of the non-Aryan races is treated at considerable length, from personal observation, in my *Annals of Rural Bengal*, pp. 127-136 and 194, 5th edition.

[4] Dr. Francis Buchanan, who afterwards took the name of Hamilton. His survey of the North-Eastern Districts of Bengal, 1807-13, forms a noble series of MS. folios in the India Office, much in need of a competent editor. Montgomery Martin made three printed volumes out of them by the easy process of drawing his pencil through the parts which did not interest him, or which he could not understand. These he published under the title of the *History, Antiquities, Topography, and Statistics of Eastern India* (3 vols., 1838).

We have seen how, in some Santáli hamlets, the worshippers dance round every tree; so that they may not, by any evil chance, miss the one in which the village spirits happen to dwell.[1]

Vishnuvite symbols.

As the non-Aryan phallic emblems were utilized by Hinduism in the worship of Siva, the All-Destroyer and Reproducer, so the household fetish *sálagrám* has supplied a symbol for the rival Hindu deity Vishnu, the Preserver. The *sálagrám* (often an ammonite or curved stone) and the *tulasí* plant are the insignia of Vishnuvism, as universally as the *linga* is of Sivaism. In both cases the Bráhmans enriched the popular symbolism with deep metaphysical doctrines, and with admirable moral codes. The Sivaite devotee carries round his neck, or hidden about his person, a miniature phallic emblem, *linga;* the *sálagrám* and *tulasí* are the objects of reverence among all the Vishnuvite sects.[2] The great Vishnuvite festival of Bengal, the *rath-játra*, when Jagannáth, 'The Lord of the World,' is dragged in his car to his garden-house, is of Buddhist origin.[3] But it has many a humbler counterpart in the forest excursions which the Bengal villagers make in their holiday clothes to some sacred tree in the neighbouring grove or jungle. These jungle rites find special favour with the low-castes, and disclose curious survivals of the non-Hinduized element in the worshippers. Blood sacrifices and the eating of flesh have long been banished from the popular Vishnuvite sects. But on such forest festivals, the fierce aboriginal instincts even in the mixed-castes, who accept in ordinary life the restraints of Hinduism, break loose. Cowherds have been seen to feed on swine-flesh, which at all other times they regard with abhorrence. The ceremonies, where they can pretend to a conscious meaning, have a propitiatory or necromantic tinge. Thus, in Bírbhúm District the mixed and low castes of the chief town repair once a year to the jungle, and make offerings to a ghost who dwells in a *bel*-tree. Buchanan-Hamilton describes such sacrifices as 'made partly from fear, and partly to gratify the appetite for flesh.'[4] In examining the western ethnical frontier of Lower Bengal, I found that the rites of the non-Aryan hillmen merged into the Hinduism of the plains.[5] I came to the conclusion that the Hindus had derived from non-Aryan sources their phallic emblem, *linga*, their house-

Jungle rites.

Non-Aryan rites merging into Hinduism.

[1] *Ante*, p. 178.

[2] See, *inter alia*, pp. 15, 39, 50, 54, 116, 117, 140, 149, 179, 181, 246, vol. i. of H. H. Wilson's *Religion of the Hindus* (ed. 1862).

[3] *Post*, pp. 312, 313.

[4] *History, etc. of Eastern India*, from the Buchanan MSS., vol. i. p. 194.

[5] *Annals of Rural Bengal*, p. 194, 5th edition.

hold fetish, *sálagrám*, their village gods, *grám-devatas*, with the ghosts and demons that haunt so many trees, and the bloody rites of their national deity, Siva. Among the Hindus, these superstitions are isolated and unconnected with each other; among the Santals and other non-Aryan races, they form links in a ritual of fear and propitiation.

Bráhman founders of Hinduism.

The development of Hinduism out of pre-existing religious types, although a natural evolution, bears the impress of human guidance. Until the 12th century A.D., the Bráhmans supplied the directing energy in opposition to the Buddhists, and founded their reforms on a reassertion of the personality of God. But by that period, Buddhism had ceased to struggle for a separate existence in India; and the mass of the people began to strike out religious sects upon popular rather than on Bráhmanical lines. The work of the early Bráhman reformers was accordingly carried on after the 12th century, in part by low-caste apostles, who gave life to the old Bráhmanical conception of a personal God, by infusing into it the Buddhist doctrine of the spiritual equality of man. Many of the Hindu sects form brotherhoods, on the Buddhist model, within which the classification by caste gives place to one based on the various degrees of perfection attained in the religious life. Most of the Hindu reformations since the 12th century thus preserve what was best in each of the two ancient faiths of India—namely, the personal God of the Bráhmans, and the spiritual equality of the Buddhists. Among the Hindus, every preacher who would really appeal to the popular heart must fulfil two conditions, and conform to a certain type. He must cut himself off from the world by a solemn act, like the Great Renunciation of Buddha; and he must come forth from his solemn communing with a simple message. The message need not be original, for it must consist of a reassertion, in some form, of the personality of God and the equality of men in His sight.

Low-caste apostles.

The Hindu Acta Sanctorum.

Hinduism boasts a line of religious founders stretching in almost unbroken succession from about 700 A.D. to the present day. The lives of the mediæval saints and their wondrous works are recorded in the Bhakta-Málá, literally, 'The Garland of the Faithful,' compiled by Nábhájí, about three centuries ago.[1] This difficult Hindu work was popularized by later

[1] H. H. Wilson, writing in the *Asiatic Researches* (Calcutta, 1828), says about '250 years ago.'—See *Journal of the Bombay Branch of the Asiatic Society*, vol. iii. p. 4.

versions and commentaries,[1] and a vast structure of miracle and fable has been reared upon it. It is the Golden Legend and Acta Sanctorum of Hinduism. The same wonders are not recorded of each of its apostles, but divine interpositions abound in the life of all. The greater ones rank as divine incarnations prophesied of old. Some were born of virgins; others overcame lions; raised the dead; their hands and feet when cut off sprouted afresh; prisons were opened to them; the sea received them and returned them to the land unhurt, while the earth opened and swallowed up their slanderers. Their lives were marvellous, and the deaths of some a solemn mystery. On Kabír's decease, both the Hindus and Musalmáns claimed the body, the former to burn it, the latter to bury it, according to their respective rites. While they wrangled over the corpse, Kabír suddenly stood in the midst, and, commanding them to look under the shroud, vanished. This they did. But under the winding-sheet they found only a heap of beautiful flowers, one-half of which they gave to be burned by the Hindus in their holy city, while the other half was buried in pomp by the Musalmáns. His name lives in the memory of the people; and pilgrims from Upper India beg a spoonful of rice-water from the Kabír Monastery at Purí, at the extreme southern point of Bengal, to this day.

Miracles of the religious founders.

Kabír's death.

Kumárila Bhatta, 750(?) A.D.

The first in the line of apostles was Kumárila, a *bhatta* or Bráhman of Behar. The legend relates that he journeyed into Southern India, in the 8th century A.D., commanding princes and people to worship one God. He stirred up a persecution against the Buddhists or Jains in the State of Rudrapur,—a local persecution which later tradition magnified into a general extermination of the Buddhists from the Himálayas to Cape Comorin.[2] In Hindu theology he figures as a teacher of the later Mímánsá philosophy, which ascribes the universe to a divine act of creation, and assumes an all-powerful God as the cause of the existence, continuance, and dissolution of the world. The doctrine of this personal deity, 'the one existent and universal soul,' 'without a second'

[1] The best known are that of Náráyan Dás, about the time of Sháh Jahán (1627-58); the *tíká* of Krishna Dás (1713); and a later version 'in the more ordinary dialect of Hindustán.'—Wilson's *Religions of the Hindus*, vol. i. pp. 9, 10 (ed. 1862).

[2] The local persecution is recorded by Ananda Giri, a disciple of Sankara about the 8th or 9th century A.D., and the author of the *Sankara-Vijaya*. The magnified version appears in the *Sarva Darsana Sangraha* of Mádhava Achárya, in the 14th century. See, however, the Mackenzie MSS. in the India Office Library.

(*adwaita*), states the philosophical argument against the Buddhists. Kumárila bequeathed his task to his famous disciple Sankara Achárya, in whose presence he is said to have solemnly committed his body to the flames.

Sankara Achárya, 9th century A.D.

With the advent of Sankara Achárya we touch more solid ground. Born in Malabar, he wandered as an itinerant preacher over India as far as Kashmír, and died at Kedarnáth in the Himálayas, aged 32. One of his disciples has narrated his life's work under the title of 'The Victory of Sankara,'[1] a record of his doctrines and controversial triumphs. Sankara moulded the later Mímánsá or Vedantic philosophy into its final form, and popularized it into a national religion. It is scarcely too much to say, that since his short life in the 8th or 9th century, every new Hindu sect has had to start with a personal God. He addressed himself to the high-caste philosophers on the one hand, and to the low-caste multitude on the other. He left behind, as the twofold results of his life's work, a compact Bráhman sect and a popular religion.

His twofold work.

His sect of Smárta Bráhmans.

The Bráhman sect are the Smártas, still powerful in Southern India. Sankara taught that there was one sole and supreme God, *Bráhma Para Bráhma*, distinct alike from any member of the old Bráhman triad, or of the modern Hindu pantheon; the ruler of the universe and its inscrutable first cause, to be worshipped, not by sacrifices, but by meditation, and in spirit and in truth. The Smárta Bráhmans follow this philosophic side of his teaching; and of the religious houses which he founded some remain to this day, controlled from the parent monastery perched among the western ranges of Mysore.[2] But Sankara realized that such a faith is for the few. To those who could not rise to so high a conception of the godhead, he allowed the practice of any rites prescribed by the Veda, or by later orthodox teachers, to whatsoever form of the godhead they might be addressed. Tradition fondly narrates that the moulders of almost all the historical sects of Hinduism—Sivaites, Vishnuvites, Sauras, Sáktas, Gánapatya, Bhairavas—were his disciples.[3]

His religion for the people.

[1] The *Sankara-Vijaya* of Ananda Giri, published in the *Bibliotheca Indica*, and critically examined by Káshináth Trimbak Telang in vol. v. of the *Indian Antiquary*. But, indeed, Sankara is the first great figure in almost every Hindu hagiology, or book of saints, from the *Sarva Darsana Sangraha* of Mádhava Achárya downwards.

[2] At SRINGIRI (*post*, vol. viii. p. 445), where a brief account is given of the head of the Smárta sect, who has his headquarters in this monastery. See also *Mysore and Coorg*, by Lewis Rice, vol. ii. p. 413, etc. (Bangalore Government Press, 1876.)

[3] Wilson's *Religion of the Hindus*, vol. i. p. 28 (1862).

But Siva-worship claims Sankara as its founder in a special sense. Siva-worship represents the popular side of his teaching, and the piety of his followers has elevated Sankara into an incarnation of Siva himself.[1]

Growth of Siva-worship;

But nothing is altogether new in Hinduism, and it is needless to say that Siva had won his way high up into the pantheon long before the 8th century A.D. Siva is the Rudra of the Vedas, as developed by Bráhman philosophy, and finally adapted to popular worship. Rudra, the Storm-God of the Vedic hymns, had grown during this process into Siva, the Destroyer and Reproducer, as the third person of the Bráhman triad. The Chinese pilgrims supply evidence of his worship before the 7th century A.D., while his dread wife had a temple at the southernmost point of India at the time of the Periplus (2d century A.D.), and gave her name to Cape Comorin.[2] Siva ranks high in the Mahábhárata, in various passages of uncertain date; but does not reach his full development till the Puránas, probably after the 10th century A.D. His worship in Bengal is said to have been formulated by Paramata Kálanála at Benares;[3] but Sankara's teaching gave an impulse to it throughout all India, especially in the south; and later tradition makes Paramata himself a disciple of Sankara.

Its philosophical aspects;

In the hands of Sankara's followers and apostolic successors, Siva-worship became one of the two chief religions of India. As at once the Destroyer and Reproducer, Siva represented profound philosophical doctrines, and was early recognised as being in a special sense the god of the Bráhmans.[4] To them he was the symbol of death as merely a change of life.

Its terrible forms.

On the other hand, his terrible aspects, preserved in his long list of names from the Roarer (Rudra)[5] of the Veda, to the Dread One (Bhíma) of the modern Hindu Pantheon, well adapted him to the religion of fear and propitiation prevalent among the ruder non-Aryan races. Siva, in his twofold character, thus became the deity alike of the highest and of the lowest

[1] This rank is claimed for Sankara by Mádhava Achárya in the 14th century A.D.; indeed, Siva's descent as Sankara is said to have been foretold in the *Skanda Purána*. Sankara is one of the names of Siva.

[2] From Kumári or Kanyá-kumári, the Virgin Goddess, a name of Durgá, wife of Siva.

[3] As Visweswara, or Lord of the Universe, under which name Siva is still the chief object of worship at Benares.

[4] A Sanskrit text declares Siva to be the *ádideva*, or special god of the Bráhmans; Vishnu, of the Kshattriyas; Brahma, of the Vaisyas; and Ganesa, of the Súdras.

[5] From the root *rud*, weep.

castes. He is the Mahá-deva, or Great God of modern Hinduism; and his wife is Deví, pre-eminently THE Goddess. His universal symbol is the *linga*, a fetish emblem of reproduction; his sacred beast, the bull, connected with the same idea; a trident tops his temples. His images partake of his double nature. The Bráhmanical conception is represented by his attitude as a fair-skinned man, seated in profound thought, the symbol of the fertilizing Ganges above his head, and the bull (emblem alike of procreation and of Aryan plough-tillage) near at hand. The wilder non-Aryan aspects of his character are signified by his necklace of skulls, his collar of twining serpents, his tiger-skin, and his club with a human head at the end. His five faces and four arms have also their significance. His wife, in like manner, appears in her Aryan form as Umá, 'Light,' the type of high-born loveliness; in her composite character as Durgá, a golden-coloured woman, beautiful but menacing, riding on a tiger; and in her terrible non-Aryan aspects, as Kálí, a black fury, of a hideous countenance, dripping with blood, crowned with snakes, and hung round with skulls. As an Aryan deity, Siva is Pasu-pati, the lord of animals and the protector of cows; Sambhu, the auspicious; Mrityunjaya, the vanquisher of death; Viswanátha, monarch of all. In his non-Aryan attributes, he is Aghora, the horrible; Virúpáksha, of mis-shapen eyes; Ugra, the fierce; Kapála-málin, garlanded with skulls. So also Deví, his female form, as an Aryan goddess is Umá, the lovely daughter of the mountain king, Himavat;[1] Aryá, the revered; Gaurí, the brilliant or gold-coloured; Jagad-gaurí, the World's Fair One; Bhaváni, the Source of Existence; and Jagan-mátá, the Mother of the Universe. Her non-Aryan attributes appear in her names of Kálí or Syámá, the Black One; Chandi, the Fierce; Bhairaví, the Terrible; Rakta-dantí, the Bloody-Toothed.

Twofold aspects of Siva and his wife.

Their twofold sets of names.

The ritual of Siva-worship preserves, in an even more striking way, the traces of its double origin. The higher minds still adore the godhead by silent contemplation, as prescribed by Sankara, without the aid of external rites. The ordinary Bráhman hangs a wreath of flowers around the phallic *linga*, or places before it harmless offerings of rice. But the low-castes pour out the lives of countless victims at the feet of the terrible Kálí, and until lately, in time of pestilence and famine, tried in their despair to appease the relentless goddess by human blood. During the dearth of 1866, in a temple to Kálí within 100 miles of Calcutta, a boy was found with his

Twofold aspects of Siva-worship.

[1] Monarch of the Himálayas.

Human offerings, 1866.

neck cut, the eyes staring open, and the stiff clotted tongue thrust out between the teeth. In another temple at Húglí (a railway station only 25 miles from Calcutta), the head was left before the idol, decked with flowers.[1] Such cases are true survivals of the regular system of human sacrifices which we have seen among the non-Aryan tribes.[2] They have nothing to do with the old mystic *purusha-medha* or man-offering, whether real or symbolical, of the ancient Aryan faith;[3] but form an essential part of the non-Aryan religion of terror, which demands that the greater the need, the greater shall be the propitiation. Such sacrifices are now forbidden, alike by Hindu custom and English law. H. H. Wilson found evidence that they were regularly offered by the Kápálika sect of Sivaite Hindus eight centuries ago; and representatives of those hideous votaries of Siva, 'smeared with ashes from the funeral pile, and their necks hung round with human skulls,' survive to this day.[4] Colonel Keatinge tells me that he has seen old sacrifice troughs near Jáintiapur, now used only for goats, which exactly fitted the size of a man. The modern ones are reduced to the dimensions of the animals at present offered; and the greater length of the ancient ones is explained by a legend of human sacrifices. The Statistical Survey of India has brought to light many traditions of such offerings. The hill tribes between Sylhet and Assam hunt a monkey at sowing-time, and crucify it on the margin of the village lands, apparently as a substitute for the Spring man-sacrifice.[2] A human life was sometimes devoted to the preservation of an artificial lake, or of a river embankment; a watchman being sacrificed,[5] or a virgin princess walled up in the breach.[6]

The Charak-Pujá.

Another Sivaite festival was the Charak-Pujá, or Hook-Swinging Festival, during which men were twisted on a pole by a hook thrust through the muscles of the back, and then swung in the air, in honour of Kálí. It was my duty in 1863 to see

[1] The Calcutta *Englishman* of 19th May 1866; *Annals of Rural Bengal*, p. 128, 5th edition.

[2] As among the Kandhs, *ante*, p. 182, etc.

[3] See Dr. Haug's *Origin of Bráhmanism*, p. 5 (Poona, 1863). The Purusha-sukta of the *Rig Veda*, x. 90, verses 7-15; and the Purusha-medha of the *Satapatha Bráhmana*, i. 2, 3, 6, and xiii. 6, i. 1; and of the *Aitareya Bráhmana*, ii. 8, with other passages quoted throughout Dr. Muir's *Sanskrit Texts*, seem to have an allegorical and mystical significance, rather than to refer to a real sacrifice. See also Wilson's Essay on Human Sacrifices, *Journal Roy. As. Soc.*, vol. viii. p. 96 (1852).

[4] *Religion of the Hindus*, vol. i. p. 264.

[5] See SAKRAYPATNA, *Imperial Gazetteer*, vol. viii. p. 122.

[6] See ANANTASAGARAM, *Imperial Gazetteer*, vol. i. p. 194.

that the orders abolishing this festival were carried out in a border District, lying between the Hindu plains and the non-Aryan highlands. The low-castes, in reality semi-aborigines, and only half-Hinduized, assembled round the poles and foretold famine from the loss of their old propitiatory rites. As they thought the spring ceremonies absolutely essential before commencing tillage, I suggested they might swing a man by a rope round his waist instead of with a hook through his back. This compromise was accepted by some, but the better informed cultivators assured me that it would have no effect on the crops without the spilling of blood.[1]

The thirteen Sivaite sects.

The thirteen chief sects of Siva-worshippers faithfully represent the composite character of their god. Sankara left behind him a succession of teachers, many of whom rose to the rank of religious founders. The *Smárta* Bráhmans still maintain their life of calm monastic piety. The *Dandís* or ascetics, divide their time between begging and meditation. Some of them adore, without rites, Siva as the third person of the Aryan triad. Others practise an apparently non-Aryan ceremony of initiation by drawing blood from the inner part of the novice's knee, as an offering to the god in his more terrible form, Bhairava. All *Dandís* follow the non-Aryan custom of burying their dead, or commit the body to some sacred stream.[2] The *Yogís* include every class of devotee, from the speechless mystic who, by long suppressions of the breath, loses the consciousness of existence in an unearthly union with Siva, to the impostor who sits upon air, and the juggler who travels with a performing goat. The Sivaite sects descend, through various gradations of self-mortification and abstraction, to the *Aghorís*, whose abnegation extends to eating carrion and gashing their bodies with knives. The lowest sects follow non-Aryan rather than Aryan types, alike as regards their use of animal food and their bloody worship.

Gradations of Siva-worship.

Non-Aryan types,

These non-Aryan types are, however, spiritualized into a mystic symbolism by the Sivaite *Sáktas*, or worshippers of the creative energy in nature (*Sakti*). The 'right-hand' adorers[3] follow the Aryan ritual, with the addition of an offering of blood.[4] Their *Tantras* or religious works take

spiritualized by the Sákta sects.

[1] It is right to say that very little blood was lost, and the wounds caused were slight; indeed, slighter than those sometimes left behind by the skewers which were fixed through the cheek or tongue of the swinger during the performance.

[2] Cf. the Santáls and the Dámodar river, *ante*, p. 178.

[3] Dakshinas or Bháktas.

[4] The *bali*.

Sákta or Tantrik sect.

the form of a dialogue between Siva and his lovely Aryan bride,[1] in which the god teaches her the true forms of prayer and ceremonial. But the 'left-hand' worship[2] is an organized fivefold ritual of incantation, lust, gluttony, drunkenness, and blood. The non-Aryan origin of these secret rites is attested by the meats and drinks forbidden to all respectable Hindus; perhaps also by the community of women, possibly an unconscious survival of the non-Aryan forms of polyandry and primitive marriage by capture.[3] The Kánchuliyas, one of the lowest of the Sivaite sects, not only enforce a community of women, but take measures to prevent the exercise of individual selection, and thus leave the matter entirely to divine chance. Even their orgies, however, are spiritualized into a mystic symbolism; and the Dread Goddess surely punishes the votary who enters on them merely to gratify his lusts.

Secret orgies.

Siva and Vishnu compared.

Siva-worship thus became a link between the highest and the lowest castes of the Hindus. Vishnu, the second person of the Aryan triad, supplied a religion for the intermediate classes. Siva, as a philosophical conception of the Bráhmans, afforded small scope for legend; and the atrocities told of him and his wife in their terrible forms, as adapted to the non-Aryan masses, were little capable of refined literary treatment. But Vishnu, the Preserver, furnished a congenial theme for sacred romance. His religion appealed, not to the fears, but to the hopes of mankind. Siva-worship combined the Bráhmanical doctrine of a personal god with non-Aryan bloody rites; Vishnu-worship, in its final form as a popular religion, represents the coalition of the same Bráhmanical doctrine of a personal God, with the Buddhist principle of the spiritual equality of man.

Vishnu always a friendly god.

Vishnu had always been a very human god, from the time when he makes his appearance in the Veda as a solar myth, the 'Unconquerable Preserver' striding across the universe in three steps.[4] His later incarnations made him the familiar

[1] Usually in the form of Umá or Párvatí.

[2] Vámís or Vámácharís, whose worship comprises the fivefold Makára, 'which takes away all sin,' namely—*mánsa* (flesh), *matsya* (fish, the symbol of oviary fertility), *madya* (intoxicating spirits), *maithuna* (sexual intercourse), *mudrá* (mystical gesticulations).

[3] Cf. also the festival of the *Rukminí-haran-ekádasí* at Puri. See my *Orissa*, vol. i. p. 131.

[4] Probably at first connected with the rising, zenith, and setting of the sun in his daily course.

friend of man. Of these 'descents'[1] on earth, ten or twenty-two in number, Vishnu-worship, with the unerring instinct of a popular religion, chose the two most beautiful and most human for adoration. As Ráma and Krishna, Vishnu attracted to himself innumerable loving legends. Ráma, his seventh incarnation, was the hero of the Sanskrit epic, the Rámáyana. In his eighth incarnation, as Krishna, Vishnu becomes the high-souled prince of the other epic, the Mahábhárata; he afterwards grew into the central figure of Indian pastoral poetry; was spiritualized into the supreme god of the Vishnuvite Puránas; and now flourishes the most popular deity of the Hindus. The worship of Vishnu, in one form or another, is the religion of the bulk of the middle classes; with its roots deep down in beautiful forms of non-Aryan nature-worship, and its top sending forth branches among the most refined of the Bráhmans and literary classes. It is a religion in all things graceful. Its gods are heroes or bright friendly beings, who walk and converse with men. Its legends breathe an almost Grecian beauty. But pastoral simplicities and an exquisite ritual belong to a later age than Siva-worship, with its pandering to the grosser superstitions of the masses. Vishnuvism made its popular conquests at a later period than Sivaite rites.

Vishnu as a hero.

His later developments.

In the 11th century, the Vishnuvite doctrines were gathered into a religious treatise. The *Vishnu Purána* dates from about 1045 A.D., and probably represents,[2] as indeed its name implies, 'ancient' traditions which had co-existed with Sivaism and Buddhism for centuries. It derived its doctrines from the Vedas, not, however, in a direct channel, but filtered through

The Vishnu Purána, *circ.* 1045 A.D.

[1] *Avatáras.* The ten chief ones are: (1) the Fish incarnation, (2) the Tortoise, (3) the Boar, (4) the Man-Lion, (5) the Dwarf, (6) Parasu-ráma or Ráma with the Axe, (7) Ráma or Ráma-chandra, (8) Krishna, (9) Buddha, and (10) Kalkí, the White Horse, yet to come. The first four are mythological beasts, perhaps representing the progress of animal life through the eras of fishes, reptiles, and mammals, developing into half-formed man. From another aspect, the Fish represents the *yoni*, or oviary fertility; the Tortoise, the *linga;* the Boar, the terrestrial fertilizer; and the Man-Lion, the celestial. These four appeared in the Satya Yuga, an astronomical period anterior to the present world. The fifth or dwarf incarnation represents early man in the Treta Yuga, or second astronomical period, also long anterior to the present mundane one. The next three incarnations represent the Heroic Age; the ninth or Buddha, the Religious Age. The tenth stands for the end of all things, according to the Hindu apocalypse, when Vishnu shall appear on a white horse, a drawn sword blazing like a comet, in his hand, for the destruction of the wicked and the renovation of the world. The *Bhágavata Purána* gives twenty-two incarnations of Vishnu.

[2] Preface to the *Vishnu Purána.* H. H. Wilson, p. cxii. (ed. 1864).

the two great epic poems. It forms one of the eighteen Puránas or Sanskrit theological works, in which the Bráhman moulders of Vishnuvism and Sivaism embodied their rival systems. These works especially extol the second and third members of the Hindu triad, now claiming the pre-eminence for Vishnu as the sole deity, and now for Siva; but in their higher flights rising to a recognition that both are but forms for representing the one eternal God. Their interminable dialogues are said to run to 1,600,000 lines.[1] But they exhibit only the Bráhmanical aspect of what were destined to become the two national faiths of India, and are devoid of any genuine sympathy for the people.

The eighteen Puránas.

Bráhmanical Vishnuvism, 1045 A.D.

The *Vishnu Purána* starts with an intolerance equal to that of the ancient code of Manu. It still declares the priests to have sprung from the mouth, and the low-castes from the feet, of God.[2] Its stately theogony disdains to touch the legends of the people. It declares, indeed, that there is One God; but He is the God of the Bráhmans, to whom He gives the earth as an inheritance, and in His eyes the ruder Indian races are as naught. This is the general tenor of its doctrines, although more enlightened, perhaps because later, passages occur. In the *Vishnu Purána*, Buddha is still an arch-heretic, who teaches the masses to despise the Veda, but whose disciples are eventually crushed by the bright Aryan gods. It is true that in the concluding book, when treating of the last Iron Age, to which this world has now come, some nobler idea of God's dealing with man gleams forth. In that time of universal dissolution and darkness, the sage consoles us by the fact that devotion to Vishnu will suffice for salvation to all persons and to all castes.[3]

Popular Vishnuvism.

Vishnuvism had to preach a different doctrine before it could become, as it has for ages been, a religion of the people. The first of the line of Vishnuvite reformers was Rámánuja, a Bráhman of Southern India. In the middle of the 12th century, he led a movement against the Sivaites, proclaiming the unity of God, under the title of Vishnu, the Cause and the Creator of all things. Persecuted by the Chola king, who tried to enforce Sivaite conformity throughout his dominions, Rámánuja fled to the Jain sovereign of Mysore. This prince he converted to the Vishnuvite faith by expelling an evil spirit from his daughter. Seven hundred

Rámánuja, *circ.* 1150 A.D.

[1] *Idem*, p. xxiv.

[2] *Vishnu Purána*, lib. i. cap. vi. p. 89. H. H. Wilson's ed. (1864).

[3] *Vishnu Purána*, lib. vi. cap. ii. H. H. Wilson, p. cxxxviii.

monasteries, of which four still remain, are said to have marked the spread of his doctrine before his death. Rámánuja made converts from every class, but it was reserved for his successors to formally enunciate the brotherhood of man.

Rámánand, 1300-1400 A.D.

At the end of the 13th century A.D., according to some authorities, or at the end of the 14th, according to others, the great reformation, which made Vishnu-worship a national religion of India, took place. Rámánand stands fifth in the apostolic succession from Rámánuja, and spread his doctrine through Northern India. He had his headquarters in a monastery at Benares, but wandered from place to place, preaching the One God under the name of Vishnu, and choosing twelve disciples, not from the priests or nobles, but among the despised castes. One of them was a leather-dresser, another a barber, and the most distinguished of all was the reputed son of a weaver. The list shows that every caste without distinction found free entrance into the new faith. The life of a disciple was no life of ease. He was called upon to forsake the world in a strictly literal sense, and to go about preaching or teaching, and living on alms. His old age found an asylum in some monastery of the brotherhood. Rámánuja had addressed himself chiefly to the pure Aryan castes, and wrote in the language of the Bráhmans. Rámánand appealed to the people, and the literature of his sect is in the dialects familiar to the masses. The Hindí vernacular owes its development into a written language, partly to the folk-songs of the peasantry and the war-ballads of the Rajput court-bards, but chiefly to the literary requirements of the new popular faith. Vishnuvism has deeply impressed itself on the modern dialects of Northern India.[1]

His low-caste disciples.

Kabír, 1380-1420 A.D.

Kabír, one of the twelve disciples of Rámánand, carried his doctrines throughout Bengal. As his master had laboured to gather together all castes of the Hindus into one common faith, so Kabír, seeing that the Hindus were no longer the whole inhabitants of India, tried, about the beginning of the 15th century, to build up a religion that should embrace Hindu and Muhammadan alike. The writings of his sect acknowledge that the god of the Hindu is also the god of

His doctrines.

[1] The three best known sets of such religious treatises are—(1) the voluminous works ascribed to Kabír (1400 A.D.) and his followers, preserved at the headquarters of his sect, the *Kabír Chaurá* at Benares; (2) the *Granth*, or scriptures of various Bhágats or Vishnuvite religious founders, especially of Dudú in Rájputána, and of the Síkh Gurús, beginning with Nának (1469); and (3) the *Bhaktamálá*, or Roll of the Bhaktas or apostles, the Golden Legend of Vishnuvism alluded to, *ante*, p. 297.

Coalition of Vishnuvism with Islám, 1420 A.D.

the Musalmán. His universal name is The Inner, whether he be invoked as the Alí of the Muhammadans, or as the Ráma of the Hindus. 'To Alí and to Ráma we owe our life,' say the scriptures of his sect,[1] 'and should show like tenderness to all who live. What avails it to wash your mouth, to count your beads, to bathe in holy streams, to bow in temples, if, whilst you mutter your prayers or journey on pilgrimage, deceitfulness is in your heart? The Hindu fasts every eleventh day; the Musalmán on the Ramazán. Who formed the remaining months and days, that you should venerate but one? If the Creator dwell in tabernacles, whose dwelling is the universe? The city of the Hindu god is to the east [Benares], the city of the Musalmán god is to the west [Mecca]; but explore your own heart, for there is the God, both of the Musalmáns and of the Hindus. Behold but One in all things. He to whom the world belongs, He is the father of the worshippers alike of Alí and of Ráma. He is my guide, He is my priest.'[2]

The One God of both.

Brotherhood of man.

Kabír's teaching marks another great stride in the Vishnuvite reformation. His master, Rámánand, had asserted the equality of castes, because he identified the deity with the worshipper. He had regarded the devotee as but a manifestation of the divinity, and no lowness of birth could degrade the godhead. As Vishnu had taken the form of several of the inferior animals, such as the Boar and the Fish incarnations, so might he be born as a man of any caste. Kabír accepted this doctrine, but he warmed it by an intense humanity. All the chances and changes of life, the varied lot of man, his differences in religion, his desires, hopes, fears, loves, are but the work of *Máyá*, or illusion. To recognise the one Divine Spirit under these manifold illusions, is to obtain emancipation and the rest of the soul. That rest is to be reached, not by burnt-offerings or sacrifice, but, according to Kabír, by faith (*bhakti*), by meditation on the Supreme, by keeping His holy names, Harí, Rám, Govínd, for ever on the lips and in the heart.

The rest of the soul.

Faith.

Chaitanya, 1485-1527 A.D.

The labours of Kabír may be placed between 1380 and 1420 A.D. In 1485, Chaitanya was born, and spread the Vishnuvite doctrines, under the worship of Jagannáth, throughout the deltas of Bengal and Orissa.[3] Signs and wonders

[1] The *Víjak* of Bhagodás, one of Kabír's disciples. For the rival claims of the Hindus and Musalmáns to Kabír's body, see *ante*, p. 298.

[2] *Sabda*, lvi. Abridged from H. H. Wilson's Works, vol. i. p. 81.

[3] For the worship of Jagganáth, see *post*, pp. 312-315.

attended Chaitanya through life, and during four centuries he has been worshipped as an incarnation of Vishnu. Extricating ourselves from the halo of legend which surrounds and obscures the apostle, we know little of his private life except that he was the son of a Bráhman settled at Nadiyá near Calcutta; that in his youth he married the daughter of a celebrated saint; that at the age of twenty-four he forsook the world, and, renouncing the state of a householder, repaired to Orissa, where he devoted the rest of his days to the propagation of the faith. He disappeared in 1527 A.D. But with regard to his doctrine we have the most ample evidence. No race or caste was beyond the pale of salvation. The Musalmáns shared his labours, and profited by his preaching as well as the Hindus. He held that all men are alike capable of faith, and that all castes by faith become equally pure. Implicit belief and incessant devotion were his watchwords. Contemplation rather than ritual was his pathway to salvation. Obedience to the religious guide is the great characteristic of his sect; but he warned his disciples to respect their teachers as second fathers, and not as gods. The great end of his system, as of all Indian forms of worship, is the liberation of the soul. He held that such liberation does not mean the mere annihilation of separate existence. It consists in nothing more than an entire freedom from the stains and the frailties of the body. The liberated soul dwells for ever, either in a blessed region of perfect beauty and sinlessness, or it soars into the heaven of Vishnu himself, high above the myths and mirages of this world, where God appears no more in his mortal incarnations, or in any other form, but is known in his supreme essence.

Chaitanya's life, 1500 A.D.

His teaching.

'Liberation' of the soul.

The followers of Chaitanya belong to every caste, but they acknowledge the rule of the descendants of the original disciple (*gosáins*). The sect is open alike to the married and unmarried. It has its celibates and wandering mendicants, but its religious teachers are generally married men. They live with their wives and children in clusters of houses around a temple to Krishna; and in this way the adoration of Chaitanya has become a sort of family worship throughout Orissa. The landed gentry worship him with a daily ritual in household chapels dedicated to his name. After his death, a sect arose among his followers, who asserted the spiritual independence of women.[1] In their monastic enclosures, male and female cenobites live in celibacy; the

The Chaitanya sect.

Its religious houses.

[1] The Spashtha Dáyakas

women shaving their heads, with the exception of a single lock of hair. The two sexes chant the praises of Vishnu and Chaitanya together, in hymn and solemn dance. But the really important doctrine of the sect is their recognition of the value of women as instructors of the outside female community. For long, they were the only teachers admitted into the *zanánas* of good families in Bengal. Fifty years ago, they had effected a change for the better in the state of female education, and the value of such instruction was assigned as the cause of the sect having spread in Calcutta.[1] Since that time, Vishnuvite female ascetics of various sorts have entered the same field. In some instances the bad crept in along with the good, and an effort made in 1863 to utilize them in the mechanism of Public Instruction failed.[2]

The place it assigns to women.

Modern Buddhist nuns.

The analogy of woman's position in the Vishnuvite sects to that assigned to her by ancient Buddhism is striking. But the analogy becomes more complete when the comparison is made with the extra-mural life of the modern Buddhist nun on the Punjab frontier. Thus, in LAHUL, the nuns have not, as in Tibet, cloisters of their own. They are attached to monasteries, in which they reside only a few months of the year; and which they may permanently quit, either in order to marry or for other good reasons. In 1868, there were seventy-one such Buddhist nuns in Lahúl, able to read and write, and very closely resembling in their life and discipline the better orders of Vishnuvite female devotees in Bengal. One of them was sufficiently skilled in astronomy to calculate an eclipse.[3]

Vallabha-Swámí, *circ.* 1520 A.D.

The death of Chaitanya marked the beginning of a spiritual decline in Vishnu-worship. About 1520, Vallabha-Swámí preached in Northern India that the liberation of the soul did not depend upon the mortification of the body; and that God was to be sought, not in nakedness and hunger and solitude, but amid the enjoyments of this life. An opulent sect had, from an early period, attached itself to the worship of Krishna and his mistress Rádhá; a mystic significance being, of course, assigned to their pastoral loves. Still more popular among women is the modern adoration of Krishna as

[1] Wilson's *Religion of Hindus*, vol. i. p. 171 (ed. 1862).

[2] The official details of this interesting and once promising experiment at Dacca will be found in Appendix A to the Report of the Director of Public Instruction, Bengal, for 1863-64, pp. 83-90; for 1864-65, pp. 155-158; and in each subsequent Annual Report to 1869.

[3] Sherring's *Hindu Tribes*, vol. ii. p. 9 (4to, Calcutta).

the Bála Gopála, or the Infant Cowherd, perhaps unconsciously stimulated by the Christian tradition of the Divine Child. Another influence of Christianity on Hinduism may possibly be traced in the growing function assigned by the Krishna sects to *bhakti*, or faith, as an all-sufficient instrument of salvation.

Child-worship.

Vallabha-Swámí was the apostle of Vishnuvism as a religion of pleasure. When he had finished his life's work, he descended into the Ganges; a brilliant flame arose from the spot; and, in the presence of a host of witnesses, his glorified form ascended to heaven. The special object of his homage was Vishnu in his pastoral incarnation, in which he took the form of the divine youth Krishna, and led an arcadian life in the forest. Shady bowers, lovely women, exquisite viands, and everything that appeals to the luscious sensuousness of a tropical race, are mingled in his worship. His daily ritual consists of eight services, in which Krishna's image, as a beautiful boy, is delicately bathed, anointed with essences, splendidly attired and sumptuously fed. The followers of the first Vishnuvite reformers dwelt together in secluded monasteries, went about scantily clothed, living upon alms. But this sect performs its devotions arrayed in costly apparel, anointed with oil, and perfumed with camphor or sandal. It seeks its converts, not among weavers, or leather-dressers, or barbers, but among wealthy bankers and merchants, who look upon life as a thing to be enjoyed, and upon pilgrimage as a holiday excursion, or an opportunity for trade.

Krishna-worship.

In a religion of this sort, abuses are inevitable. It was a revolt against a system which taught that the soul could approach its Maker only by the mortification of the body. It declared that God was present in the cities and marts of men, not less than in the cave of the ascetic. Faith and love were its instruments of salvation, and voluptuous contemplation its approved spiritual state. It delighted to clothe the deity in a beautiful human form, and mystical amorous poems make a large part of its canonical literature. One of its most valued theological treatises is entitled The Ocean of Love, *Prem Ságar;* and although its nobler professors always recognise its spiritual character, to baser minds it has become simply a religion of pleasure. The loves of Rádhá and Krishna, that woodland pastoral, redolent of a wild-flower aroma as ethereal as the legend of Psyche and Cupid, are sometimes materialized into a sanction for licentious rites.

A religion of pleasure.

Love Poems.

I have described a few of the Vishnuvite sects, in order to show the wide area of religious thought which they cover, and

Numerous Vishnuvite sects.

the composite conceptions of which they are made up. But any attempt at even a complete catalogue of them is altogether beyond the scope of this work. Wilson divides them into twenty principal sects, and the branches or lesser brotherhoods probably number not less than a hundred. Their series of religious founders continued until the present century, when they began to merge into the more purely Theistic movements of our day. Indeed, the higher Vishnuvite teachers have always been theistic. The Statistical Survey of India has disclosed many such reformations, from the Kartábhajás[1] of the Districts around Calcutta, to the Satnámis[2] of the Central Provinces. Some of them are poor local brotherhoods, with a single religious house; others have developed into widespread and wealthy bodies; while one theistic sect has grown into a great nation, the Síkhs, the last military power which we had to subdue in India.[3] Nának Sháh, the spiritual founder of the Síkhs, was nearly contemporary with Kabír, and taught doctrines in the Punjab but little differing from those of the Bengal apostle.[4] The Vaishnavas now engross almost the whole population of Lower Bengal, excepting the very highest and the very lowest castes. In many of their sects, caste is not acknowledged. Such sects form brotherhoods which recognise only spiritual distinctions or degrees; and a new social organization is thus provided for the unfortunate, the widow, or the out-caste. In lately settled Provinces like Assam, Vishnu-worship becomes practically the universal religion of the Hindus.

The twenty chief Vishnuvite sects. Theistic movements. The Síkhs. Nának Sháh, 1469. Brotherhoods.

The Car Festival of Jagannáth is perhaps the most typical ceremony of the Vishnuvite faith. Jagannáth, literally 'The Lord of the World,' represents, with unmistakeable clearness, that coalition of Bráhman and Buddhist doctrines which form the basis of Vishnu-worship. In his temple are three rude images, unconsciously representing the Bráhmanical triad. His Car Festival is probably a once-conscious reproduction of the Tooth Festival of the Buddhists, although its original significance has dropped out of sight. The Chinese pilgrim Fa-Hian gives an account of the yearly procession of Buddha's Sacred Tooth from its chapel to a shrine some way

Jagannáth. His Bráhmanical and Buddhist origin.

[1] See my *Statistical Account of Bengal*, vol. i. pp. 73-75 (TWENTY-FOUR PARGANAS); vol. ii. pp. 53-55 (NADIYA).

[2] *Vide Imperial Gazetteer of India*, vol. ii. p. 364.

[3] See *post*, p. 414, and *Imperial Gazetteer*, vol. i. p. 180 (AMRITSAR); vol. vii. pp. 419-421 (PUNJAB). For the theological aspects of the Síkhs,

off,[1] and of its return after a stay there. This was in the 5th century A.D.; but the account applies so exactly to the Car Festival at the present day, that Fergusson pronounces the latter to be 'merely a copy.'[2] A similar festival is still celebrated with great rejoicing in Japan. As in the Indian procession of Jagannáth, the Japanese use three cars;[3] and Buddha sits in his temple, together with two other figures, like the Jagannáth triad of Orissa.[3] It is needless to add, that while Jagannáth is historically of Buddhist or composite origin, he is to his true believers the one supreme 'Lord of the World.'

Car Festival of Jagannáth.

In another work, I have exposed the calumnies in which some English writers have indulged with regard to his worship. I carefully examined the whole evidence on the subject from 1580, when Abul Fazl wrote, through a long series of travellers, down to the police reports of 1870.[4] I came to the conclusion which H. H. Wilson had arrived at from quite different sources,[5] that self-immolation was entirely opposed to the worship of Jagannáth, and that the rare deaths at the Car Festival were almost always accidental. In a closely packed, eager throng of a hundred thousand men and women at Purí, numbers of them unaccustomed to exposure or hard labour, and all of them tugging and straining to the utmost at the car, under a blazing sun, deaths must occasionally occur. There have doubtless been isolated instances of pilgrims throwing themselves under the wheels in a frenzy of religious excitement. At one time, several unhappy people were killed or injured every year, but they were almost invariably cases of accidental trampling. At an early period, indeed, the priests at Purí, probably by permitting a midnight sacrifice once a year within their precincts to the wife[6] of Siva, had fallen under suspicion of bloody rites.[7] But such rites arose from the ambition of the priests to make Purí the sacred city of all worships and all sects. They represent the efforts made from time to time towards a coalition of the Sivaite and Vishnuvite worship, like the *chakra* or sacred disc of Vishnu

English calumnies.

Self-immolation not practised.

[1] From the chapel at Anurádhapura to Mehentele.

[2] *History of Architecture*, vol. ii. p. 590 (ed. 1867).

[3] See, among many interesting notices by recent travellers, Miss Bird's *Unbeaten Tracks in Japan*, vol. i. pp. 111, 115, etc. (ed. 1880).

[4] See my *Orissa*, vol. i., particularly pp. 306-308; also pp. 132-136.

[5] Namely, the descriptions of the Car Festival or *Rath-Játra* in the work of Krishna Dás.

[6] Bimalá, the 'Stainless One.'

[7] See statement from the *Haft iklim* ...

which surmounts the prehistoric temple to Kálí at Tamluk.[1] These compromises had nothing to do with the worship of the true Jagannáth, and a drop of blood even accidentally spilt in his presence would pollute the officiating priests, the people, and the consecrated food. The few suicides that at rare intervals occurred at the Car Festival were for the most part diseased and miserable objects, who took this means to put themselves out of pain.[2] The official returns now place the facts beyond doubt. Nothing could be more opposed to Vishnu-worship than self-immolation. Any death within the temple of Jagannáth renders the place unclean. The ritual suddenly stops, and the polluted offerings are hurried away from the sight of the offended god.

His bloodless worship.

Evidence about Jagannáth

According to Chaitanya, the Orissa apostle of Jagannáth, the destruction of the least of God's creatures is a sin against the Creator. Self-slaughter he would have regarded with abhorrence. The copious religious literature of his sect frequently describes the Car Festival, but makes no mention of self-sacrifice, and contains not a single passage which could be twisted into a sanction for it.[3] Abul Fazl, the minister of Akbar, who conducted the survey of India for the Mughal Emperor, is silent about self-immolation to Jagannáth, although, from the context, it is almost certain that had he heard of the practice he would have mentioned it. In 1870, I compiled an index to all accounts by travellers and others of self-immolation at the Car Festival, from the 14th century downwards.[4] I think it is clear that such suicides did at rare intervals occur, although they were opposed to the spirit of the worship. An Indian procession means a vast multitude of excitable beings ready for any extravagance. Among Indian processions, that of Jagannáth to his country-house stands first; and the frenzied affrays of the Muharram might as fairly be assigned to the deliberate policy of the British Government, as the occasional suicides at the Car Festival may be charged against the god. I find that the travellers who tell the most sensational stories are the ones whose narratives prove that they went entirely by hearsay, or that they could not themselves have seen the Car Festival at

against self-slaughter.

[1] *Vide post*, *Imperial Gazetteer*, vol. viii. pp. 517, 518.

[2] See authorities quoted in my *Orissa*, vol. i. p. 134; Stirling's *Asiatic Researches*, vol. xv. p. 324; *Calcutta Review*, vol. x. p. 235; *Report of Statistical Commissioner to the Government of Bengal*, 1868, part ii. p. 8; Purí Police Reports; Lieut. Laurie's *Orissa*, 1850.

[3] H. H. Wilson's *Religion of the Hindus*, vol. i. p. 155 (ed. 1862).

[4] See my *Orissa*, vol. i. pp. 305-308.

Purí. The number of deaths, whether voluntary or accidental, as registered by the dispassionate candour of English officials, has always been insignificant, indeed far fewer than those incident to the party processions of the Musalmáns; and under improved police arrangements, they have practically ceased. So far from encouraging religious suicides, the gentle doctrines of Jagannáth tended to check the once common custom of widow-burning. Even before the Government put a stop to *satí* in 1829, our officials observed its comparative infrequency at Purí. Widow-burning was discountenanced by the Vishnuvite reformers, and is stigmatized by a celebrated disciple as 'the fruitless union of beauty with a corpse.'

His gentle doctrines.

The worship of Siva and Vishnu operates as a religious bond among the Hindus, in the same way as caste supplies the basis of their social organization. Theoretically, the Hindu religion starts from the Veda, and acknowledges its divine authority. But, practically, we have seen that Hinduism takes its origin from many sources. Vishnu-worship and Sivaite rites represent the two most popular combinations of these various elements. The highly cultivated Bráhman is a pure theist; the less cultivated worships the divinity under some chosen form, *ishta-devatá*. The conventional Bráhman, especially in the south, takes as his 'chosen deity,' Siva in his deep philosophical significance, with the phallic *linga* as his emblem. The middle classes and the mercantile community adore some incarnation of Vishnu. The low-castes propitiate Siva the Destroyer, or rather one of his female manifestations, such as the dread Kálí.

The religious *nexus* of Hinduism.

The 'chosen god,' *ishta-devatá*.

But every Hindu of education feels that his special object of homage is merely his *ishta-devatá*, or own chosen form under which to adore the deity, *Param-eswara*. He admits that there is ample scope for adoring God under other manifestations, or in other shapes. Unless a new sect takes the initiative, by rejecting caste or the Veda, the Hindu is slow to dispute its orthodoxy. Even the founder of the Brahmá Samáj, or modern theistic church of Bengal, lived and died a Hindu.[1] The Indian vernacular press cordially

Practical faith of the Hindus.

Their tolerance.

[1] The best short account of this deeply interesting movement, and of its first leader Rammohun Roy, will be found under the title of *Indian Theistic Reformers*, by Professor Monier Williams, in the *Journal Royal Asiatic Society*, Jan. 1881, vol. xiii. See also his *Modern India* (Trübner, 1879); and Miss Collet's *Brahmo Year Book* (Williams & Norgate, annually).

Hindu fairness to Christianity.

acknowledges the merits of distinguished Christian teachers, like Dr. Duff of Calcutta, or Dr. Wilson of Bombay. At first, indeed, our missionaries, in their outburst of proselytizing zeal, spoke disrespectfully of Hinduism, and stirred up some natural resentment. But as they more fully realized the problems involved in conversion, they moderated their tone, and now live on friendly terms with the Bráhmans and natives. An orthodox Hindu paper, which had been filling its columns with a vigorous polemic entitled 'Christianity Destroyed,' no sooner heard of the death of the late Mr. Sherring, than it published a eulogium on that devoted missionary. It dwelt on 'his learning, affability, solidity, piety, benevolence, and business capacity.' The editor, while a stout defender of his hereditary faith, regretted that 'so little of Mr. Sherring's teaching had fallen to his lot.'[1] The Hindus are among the most tolerant religionists in the world.

Modern fate of the Hindu triad.

Of the three members of the Hindu triad, the first person, Bráhma, has now but a few scattered handfuls of followers; the second person, Vishnu, supplies a worship for the middle classes; around the third person, Siva, in his twofold aspects, has grown up that mixture of philosophical symbolism with propitiatory rites professed by the highest and by the lowest castes. But the educated Hindu willingly recognises that, beyond and above his chosen person of the triad, or his favourite incarnation, or his village fetish, or his household *sálagrám*, dwells the Param - eswara, the One First Cause, whom the eye has not seen, and whom the mind cannot conceive, but who may be worshipped in any one of the forms in which he has made his power manifest to men.

The One God, *Param-eswara.*

Recapitulation.

I have endeavoured briefly to indicate how, from materials supplied by the early Aryan and non-Aryan races of India, the Hindu population and the Hindu religion were built up. I now proceed to consider the two series of influences which, within historic times, have been brought to bear, by nations from the west, upon the composite people thus formed. The first set of these influences is represented by the Muhammadan invasions; the second by the European settlements, which culminated in British rule.

MUHAMMADAN RULE IN INDIA. — While Buddhism was giving place to Hinduism in India, a new faith had arisen in

[1] The *Kaví-bachan Sudha*, quoted in the *Chronicle of the London Missionary Society* for November 1880, p. 792.

Arabia. Muhammad, born in 570 A.D., created a conquering religion, and died in 632. Within a hundred years after his death, his followers had invaded the nations of Asia as far as the Hindu Kush. Here their progress was stayed, and Islám had to consolidate itself, during three more centuries, before it grew strong enough to grasp the rich prize of India. But, almost from the first, the Arabs had fixed eager eyes upon that wealthy country. Fifteen years after the death of the prophet, Usmán sent an expedition to Thána and Broach on the Bombay coast (636 A.D.).[1] Other raids towards Sind took place in 662 and 664, with no results.[2] In 712,[3] however, the youthful Kásim advanced into Sind, to claim damages for an Arab ship which had been seized at an Indian port. After a brilliant campaign, he settled himself in the Indus valley; but the further advance of the Musalmáns depended on the personal daring of their leader, and was arrested by his death in 714 A.D. The despairing valour of the Hindus struck the invaders with wonder. One Rájput garrison preferred utter extermination to submission. They raised a huge funeral pile, upon which the women and children first threw themselves. The men having bathed, took a solemn farewell of each other, and, throwing open the gates, rushed upon the weapons of the besiegers and perished to a man. In 750,[4] the Rájputs are said to have expelled the Muhammadan governor, but it was not till 828 A.D. that the Hindus regained possession of Sind.[5]

Early Arab expeditions to Bombay coast, 636-712 A.D.

Muhammadan settlement in Sind, 712-828?

Their expulsion, 828 A.D.

The armies of Islám had carried the crescent from the Hindu Kush westwards, through Asia, Africa, and Southern Europe, to distant Spain and Gaul, before they obtained a foothold in the Punjab. This long delay was due, not only to the daring of individual tribes, such as the Sind Rájputs just mentioned, but to the military organization of the Hindu

India on the eve of the Muhammadan conquest, 1000 A.D.

[1] Al Biláduri, in *The History of India, as told by its own Historians*, edited from the posthumous papers of the late Sir H. M. Elliot, K.C.B., by Professor John Dowson, vol. i. p. 115. The eight volumes of this work (Trübner, 1867-77) now form the standard authority for the Muhammadan period of India. They consist of translations from Arabian and Persian writers, with Prefaces and Notes.

[2] Sir H. Elliot's *Hist.*, vol. i. p. 116.

[3] *Report of the Archæological Survey of Western India for* 1874-75, p. 71 (4to, 1876). The original authorities for the early Muhammadan occupation of Sind are translated in Sir H. Elliot's first volume (1867), and examined in the Appendices, pp. 434 *et seq.*

[4] According to Mountstuart Elphinstone's *History of India*, Professor Cowell's ed., p. 312 (Murray, 1866).

[5] *Report of Archæological Survey of Western India for* 1874-75, p. 72.

kingdoms. To the north of the Vindhyás, three separate groups of princes governed the great river-valleys. The Rájputs ruled in the north-west, throughout the Indus plains, and along the upper waters of the Jumna. The ancient Middle Land of Sanskrit times (Madhya-desha) was divided among powerful kingdoms, with their Suzerain at Kanauj. The lower Gangetic valley, from Behar downwards, was still in part governed by Pál or Buddhist dynasties, whose names are found from Benares to jungle-buried hamlets deep in the Bengal delta.[1] The Vindhyá ranges stretched their wall of forest and mountain between the northern and southern halves of India. Their eastern and central regions were peopled by fierce hill tribes. At their western extremity, towards the Bombay coast, lay the Hindu kingdom of Málwá, with its brilliant literary traditions of Vikramáditya, and a vast feudal array of fighting men. India to the south of the Vindhyás was occupied by a number of warlike princes, chiefly of non-Aryan descent, but loosely grouped under three great over-lords, represented by the Chera, Chola, and Pándia dynasties.[2]

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Each of these groups of kingdoms, alike in the north and in the south, had a certain power of coherence to oppose to a foreign invader; while the large number of the groups and units rendered conquest a very tedious process. For even when the over-lord or central authority was vanquished, the separate groups and units had to be defeated in detail, and each supplied a nucleus for subsequent revolt. We have seen how the brilliant attempt in 712, to found a lasting Muhammadan dynasty in Sind, failed. Three centuries later, the utmost efforts of two great Musalmán invaders from the north-west only succeeded in annexing a small portion of the frontier Punjab Province, between 977 and 1176 A.D. The Hindu power in Southern India was not completely broken till the battle of Tálikot in 1565; and within a hundred years, in 1650, the great Hindu revival had commenced which, under the form of the Marhattá confederacy, was destined to break up the Mughal Empire in India. That Empire, even in the north of India,

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[1] For example, at Sábhár, on the northern bank of the Burígangá, once the capital of the Bhuiya or Buddhist Pál Rájá Harischandra. In 1839, the only trace that remained of his traditional residence was a brick mound, covered with jungle. See my *Statistical Account of Bengal*, vol. v. pp. 72, 73, 118. In Lower Bengal, the Buddhist Páls had given place to the Bráhmanized Sens of Nadiyá before the Muhammadans reached that Province for the first time in 1199.

[2] See *post*, p. 334; also *Imperial Gazetteer*, vols. ii. and vii., articles CHERA, CHOLA, and PANDIA.

had only been consolidated by Akbar's policy of incorporating Hindu chiefs and statesmen into his government (1556-1605). Up to his time, and during the earlier years of his reign, a series of Rájput wars had challenged the Muhammadan supremacy. In less than two centuries, the successor of Akbar was a puppet and a prisoner in the hands of the Hindu Marhattás at Delhi.

Their success short-lived.

The popular notion that India fell an easy prey to the Musalmáns is opposed to the historical facts. Muhammadan rule in India consists of a series of invasions and partial conquests, during eleven centuries, from Usmán's raid in 636 to Ahmad Sháh's tempest of invasion in 1761 A.D. They represent in Indian history the overflow of the nomad tribes of Central Asia to the south-east; as the Huns, Túrks, and various Tartar tribes disclose in early European annals the westward movements from the same great breeding-ground of nations. At no time was Islám triumphant throughout all India. Powerful Hindu dynasties ruled over a large area. At the height of the Muhammadan power, the Hindu princes paid tribute, and sent agents to the Imperial Court. But even this modified supremacy of Delhi lasted for little over a century (1578-1707). Before the end of that brief period, the Hindus had again begun the work of reconquest. The native chivalry of Rájputána was closing in upon Delhi from the south-east; the religious confederation of the Síkhs was growing into a military power on the north-west. The Marhattás combined the fighting powers of the low-castes with the statesmanship of the Bráhmans, and subjected the Muhammadan kingdoms throughout India to tribute. So far as can now be estimated, the advance of the English power at the beginning of the present century alone saved the Mughal Empire from passing to the Hindus.

Muhammadan conquests only partial,

and temporary.

Hindus reconquer India from the Musalmáns, 1707-61.

In treating of the Muhammadan period, I shall exhibit the principal stages in the spread of the Musalmán conquest, without dwelling on the intermediate princes of the various dynasties who flit across the scene.[1] The annexed summary presents a view of the whole :—

[1] The Hon. Mountstuart Elphinstone's *History of India* is still the standard popular work on the Muhammadan period. Professor Cowell's edition (Murray, 1866) has endeavoured to incorporate many of the new materials furnished by Indian scholarship since the time when Mr. Elphinstone wrote. But much of the original work is little more than a reproduction of *Firishta*, and requires to be rewritten from the *Indian Historians* and the Reports of the Indian Surveys. I have chiefly used, besides Elphinstone, the following works for the Muhammadan period :—(1) Sir

Summary of Muhammadan Conquerors and Dynasties of India (1001-1857).

I. House of Ghazni (Túrkí).
1001-1186. Mahmúd of Ghazní to Sultán Khusrú. Pp. 321-3.

II. House of Ghor (Afghán ?).
1186-1206. Muhammad Ghori (Shahab-ud-dín). Pp. 324-7.

III. Slave Kings (chiefly Túrkí).
1206-1290. Kutab-ud-dín to Balban and Kaikubád. Pp. 327-9.

IV. House of Khilji (Túrkí ?).
1290-1320. Jalál-ud-dín to Násir-ud-dín Khusrú. Pp. 329-31.

V. House of Tughlak (Punjab Túrks). Pp. 331-4.
1320. Ghiyás-ud-dín Tughlak.
1325. Muhammad Tughlak.
1351. Firuz Tughlak.
1414. End of the dynasty. P. 334.
[Irruption of the Mughals under Timúr (Tamerlane) in 1398-99, leaving behind him a fifteen years' anarchy under the last of the throne of Tughlak, until the accession of the Sayyids in 1414. P. 334.]

VI. The Sayyids.
1414-1450. Curtailed power of Delhi. P. 334 *passim*.

VII. The Lodis (Afgháns).
1450-1526. Feeble reigns; independent States. Pp. 334-7.

VIII. House of Timur (Mughal).
1526-1530. Bábar. Pp. 337-8.
1530-1556. Humáyún. Pp. 338-9.
[Sher Sháh, the Afghán Governor of Bengal, drives Humáyún out of India in 1540, and his Afghán dynasty rules till 1555. P. 339.]
1556-1605. Akbar the Great. Pp. 339-45.
1605-1627. Jahángír. Pp. 347-9.
1628-1658. Sháh Jahán, deposed. Pp. 349-52.
1658-1707. Aurangzeb or Alamgír I. Pp. 352-8.
1707-1712. Bahádur Sháh, or Sháh Alam I. P. 358.
1712. Jahandar Sháh. P. 358.
1713-1718. Farrukhsiyyar. P. 358.
1719-1748. Muhammad Sháh (after two boy Emperors). Pp. 358-9.
[Irruption of Nádir Sháh the Persian, 1738-1739. P. 360.]
1748-1754. Death of Muhammad Sháh; and accession of Ahmad Sháh, deposed 1754. P. 359.
1754-1759. Alamgír II. P. 359.
[Six invasions of India by Ahmad Sháh Duráni, the Afghán, 1748-1761. Pp. 360-1].
1759-1806. Sháh Alam II., titular Emperor. P. 359.
1806-1834. Akbar II., titular Emperor. P. 359.
1834-1857. Muhammad Bahádur Sháh, titular Emperor; the seventeenth and last Mughal Emperor; died a State prisoner at Rangoon in 1862. P. 359.

Henry Elliot's *Translations from the Indian Historians*, 8 vols. (1867-77), *ante*, Note 1 to p. 317; (2) Mr. Edward Thomas' *Chronicles of the Pathán Kings of Delhi*, especially for reigns from 1193 to 1554, for which period he gives the initial dates of the Hijra years (Trübner, 1871); (3) Mr. Edward Thomas' *Revenue Resources of the Mughal Empire*, with his manuscript marginal notes; (4) Lieut.-Colonel Briggs' Translation of Muhammad Kásim Firishta's *History of the Rise of the Muhammadan Power in India;* (5) Reports of the Archæological Survey of Western India, and materials supplied by the Statistical Survey of the various Provinces of India; (6) Professor Blochmann's *Ayín-i-Akbari*, together with Gladwin's older translation (2 vols. 1800).

The first collision between Hinduism and Islám on the Punjab frontier was the act of the Hindus. In 977, Jáipál, the Hindu chief of Lahore, annoyed by Afghán raids, led his troops up the passes against the Muhammadan kingdom of Ghazní, in Afghánistán. Subuktigín, the Ghaznivide prince, after severe fighting, took advantage of a hurricane to cut off the Hindu retreat through the pass. He allowed them, however, to return to India on the surrender of fifty elephants, and the promise of 1 million *dirhams* (about £25,000).[1] Tradition relates how Jáipál, having regained his capital, was counselled by the Bráhman, standing at his right hand, not to disgrace himself by paying ransom to a barbarian; while his nobles and warrior chiefs, standing at his left, implored him to keep faith. In the end, Subuktigín swept down the passes to enforce his ransom, defeated Jáipál, and left an Afghán officer with 10,000 horse to garrison Peshâwar. Subuktigín was soon afterwards called away to fight in Central Asia, and his Indian raid left behind it only this outpost.[2] But henceforth, the Afgháns held both ends of the passes.

First Túrkí invasions.

Subuktigín, 977 A.D.

In 997, Subuktigín died, and was succeeded by his son, Mahmúd of Ghazní, aged sixteen. This valiant monarch reigned for thirty-three years,[3] and extended the limits of his father's little Afghán kingdom from Persia on the west, to deep into the Punjab on the east. Having spent four years in consolidating his power to the west of the Khaibar Pass, he led forth in 1001 A.D. the first of his seventeen invasions of India.[4] Of these, thirteen were directed to the subjugation of the western Punjab, one was an unsuccessful incursion into Kashmír, and the remaining three were short but furious raids against more distant cities—Kanauj, Gwalior, and Somnáth. Jáipál, the Hindu frontier chief of Lahore, was again defeated. According to Hindu custom, a twice-conquered prince was deemed unworthy to reign, and Jáipál, mounting a funeral pile, solemnly

Mahmúd of Ghazní, 1001-1030.

His seventeen invasions, 1001-1026.

[1] The *Táríkh Yamíní*, written *circ.* 1020, by Al 'Utbí, a secretary of Sultán Mahmúd, is the contemporary authority for this invasion. It is translated in Sir Henry Elliot's *Hist.*, vol. ii. pp. 18-24. The materials for the invasions of Subuktigín are *Firishta*, i. pp. 11-25 (ed. 1829); and Sir Henry Elliot's *Indian Historians*, vols. ii. iii. iv. and vi.

[2] His chronicler, Al 'Utbí, never once mentions Delhi or Lahore.

[3] The *Tabakát-i-Násirí* (Sir Henry Elliot, vol. ii. p. 270) speaks of the '36th year of his reign.' But the dates 997 to 930 seem authoritative. The original materials for the invasions of Mahmúd are *Firishta*, i. pp. 37-82; and Sir Henry Elliot's *Indian Historians*, vols. i. ii. iii. and iv.

[4] For this number, and subsequent details, I follow the Persian authorities translated by Sir Henry Elliot, vols. ii. iii. iv.; and critically examined in the Appendix to his second volume, pp. 434-478 (1869).

Patriotic devotion of the Hindus, 1008 A.D.

made over his kingdom to his son, and burned himself in his regal robes. Another local chief, rather than yield himself to the victor, fell upon his own sword. In the sixth expedition (1008 A.D.), the Hindu ladies melted their ornaments, while the poorer women spun cotton, to support their husbands in the war. In one great battle, the fate of the invaders hung in the balance. Mahmúd, alarmed by a coalition of the Indian kings as far as Oudh and Málwá, entrenched himself near Peshávar. A sortie which he made was driven back, and the wild Ghakkar tribe[1] burst into the camp and slaughtered nearly 4000 Musalmáns.

Mahmúd's progress in India, 1001-1024.

But each expedition ended by further strengthening the Muhammadan foothold in India. Mahmúd carried away enormous booty from the Hindu temples, such as Thaneswar and Nagarkot, and his sixteenth and most famous expedition was directed against the temple of Somnáth in Guzerat (1024 A.D.). After bloody repulses, he carried the town, and the Hindu garrison, leaving 5000 dead, put out in boats to sea. The famous idol of Somnáth was merely one of the twelve *lingas* or phallic emblems erected in various parts of India.

Expedition to Somnáth, 1024.

But Mahmúd having taken the name of the 'Idol-Smasher,' the modern Persian historians gradually converted the plunder of Somnáth into a legend of his pious zeal. Forgetting the contemporary accounts of the idol as a rude block of stone, Firishta tells how Mahmúd, on entering the temple, was offered an enormous ransom by the priests if he would spare the image.[2] But Mahmúd cried out that he would rather be remembered as the breaker than the seller of idols, and clove the god open with his mace. Forthwith a vast treasure of jewels poured forth from its vitals, which explained the liberal offers of the priests, and rewarded the disinterested piety of the monarch. The growth of this myth can be clearly traced,[3] but it is still repeated by uncritical historians. Mahmúd carried off the temple gates, with fragments of the

[1] *Vide ante*, p. 277. Firishta says, '30,000 Ghakkars, with their heads and feet bare.' Colonel Brigg's *Firishta*, vol. i. p. 47 (ed. 1829).

[2] Colonel Brigg's *Firishta*, vol. i. pp. 72, 73 (ed. 1829).

[3] Sir H. Elliot's *History of India from Persian Historians*, vol. ii. p. 270, from the *Tabakát-i-Násirí*; also Appendix, vol. ii. p. 476; vol. iv. pp. 182, 183, from the *Habíbu-s-Siyar* of Khondamir. But see, even in 1832, H. H. Wilson in the *Asiatic Researches*, vol. xvii. pp. 194 *et seq*. A foundation for Firishta's invention is, however, to be found in the contemporary account of Al Biruni (970-1029 A.D.), who says that the top of the *linga* was garnished with gems of gold.

phallic emblem, to Ghazní,[1] and on the way nearly perished with his army in the Indus desert. But the famous 'Sandalwood gates of Somnáth,' brought back as a trophy from Ghazní by our troops in 1842, and paraded through Northern India, were as clumsy a forgery as the story of the jewel-bellied idol himself. Mahmúd died at Ghazní in 1030 A.D.

As the result of seventeen invasions of India, and twenty-five years' fighting, Mahmúd had reduced the western districts of the Punjab to the control of Ghazní, and left the remembrance of his raids as far as Kanauj on the east and Guzerat in the south. He never set up as a resident sovereign in India. His expeditions beyond the Punjab were the adventures of a religious knight-errant, with the plunder of a temple-city, or the demolition of an idol, as their object, rather than serious efforts at conquest. But as his father had left Peshá-war as an outpost garrison, so Mahmúd left the Punjab as an outlying Province of Ghazní.

Results of Mahmúd's invasions, 1030 A.D.

The Punjab conquered

The Muhammadan chroniclers tell many stories, not only of his valour and piety, but also of his thrift. One day a poor woman complained that her son had been killed by robbers in a distant desert of Irak. Mahmúd said he was very sorry, but that it was difficult to prevent such accidents so far from the capital. The old woman rebuked him with the words, 'Keep no more territory than you can rightly govern;' and the Sultán forthwith rewarded her, and sent troops to guard all caravans passing that way. Mahmúd was an enlightened patron of poets, and his liberality drew the great Ferdousi to his court. The Sultán listened with delight to his *Sháh-námah*, or Book of Kings, and promised him a *dirham*, meaning a golden one, for each verse on its completion. After thirty years of labour, the poet claimed his reward. But the Sultán finding that the poem had run to 60,000 verses, offered him 60,000 silver *dirhams*, instead of *dirhams* of gold. Ferdousi retired in disgust from the court, and wrote a bitter satire which tells of the base birth of the monarch to this day. Mahmúd forgave the satire, but remembered the great epic, and, repenting of his meanness, sent 100,000 golden *dirhams* to the poet. The bounty came too late. For as the royal messengers bearing the bags of gold entered one gate of Ferdousi's city, the poet's corpse was being borne out by another.

Mahmúd's justice and thrift.

Ferdousi.

[1] Of the four fragments, he deposited one in the Jamá Masjid at Ghazní, another at the entrance of his palace, the third he sent to Mecca, and the fourth to Medina. *Tabakát-i-Násirí.*

ouse of or, 52-1186.

otains e njab, 86.

During a century and a half, the Punjab remained under Mahmúd's successors, as a Province of Ghazní. But in 1152, the Afgháns of Ghor[1] overthrew the Ghaznívide dynasty; and Khusrú, the last of Mahmúd's line, fled to Lahore, the capital of his outlying Indian territory. In 1186, this also was wrested from him;[2] and the Ghorian prince Shaháb-ud-dín, better known as Muhammad of Ghor, began the conquest of India on his own account. But each of the Hindu principalities fought hard, and some of them still survive seven centuries after the torrent of Afghán invasion swept over their heads.

uhammad of hor's vasions, 191-1206.

is first efeat, 191.

issensions nong the Hindu rinces.

On his first expedition towards Delhi, in 1191, Muhammad of Ghor was utterly defeated by the Hindus at Thánesar, badly wounded, and barely escaped with his life. His scattered hosts were chased for 40 miles. But he gathered together the wreck at Lahore, and, aided by new hordes from Central Asia, again marched into Hindustán in 1193. Family quarrels among the Rájputs prevented a united effort against him. The cities of Delhi and Kanauj stand forth as the centres of rival Hindu monarchies, each of which claimed the first place in Northern India. A Chauhán prince, ruling over Delhi and Ajmere, bore the proud name of Prithwí Rájá or Suzerain. The Ráhtor king of Kanauj, whose capital can still be traced across 8 square miles of broken bricks and rubbish,[3] celebrated a feast, in the spirit of the ancient Horse-sacrifice,[4] to proclaim himself the Over-lord. At such a feast, all menial offices had to be filled by royal vassals; and the Delhi monarch was summoned as a gatekeeper, along with the other princes of Hindustán. During the ceremony, the daughter of the King of Kanauj was to make her *swayamvara*,[5] or 'own choice' of a husband, as in the Sanskrit epics. The Delhi Rájá loved the maiden, but he could not brook to stand at another man's gate. As he did not

ourt ageant at anauj, th century A.D.

[1] Ghor, one of the oldest seats of the Afghán race, is now a district and ruined town of Western Afghánistán, 120 miles south-east of Herát. The feud between Ghor and Ghazní was of long standing and great bitterness. Mahmúd of Ghazní had subdued Ghor in 1010 A.D., but about 1051 the Ghorian chief captured Ghazní, and dragged its chief inhabitants to Ghor, where he cut their throats, and used their blood in making mortar for the fortifications. After various reprisals, Ghor finally triumphed over Ghazní in 1152.

[2] *Tabakát-i-Násirí.* Sir H. Elliot, vol. ii. p. 281.

[3] See article KANAUJ, *Imperial Gazetteer*, vol. v. p. 204.

[4] *Aswamedha, ante*, pp. 231, 235, 269.

[5] *Ante*, pp. 230, 234.

arrive, the Kanauj king set up a mocking image of him at the door. When the princess entered the hall to make her choice, she looked calmly round the circle of kings, then stepping proudly past them to the door, threw her bridal garland over the neck of the ill-shapen image. Forthwith, says the story, the Delhi monarch rushed in, sprang with the princess on his horse, and galloped off towards his northern capital. The outraged father led out his army against the runaways, and, having called in the Afgháns to attack Delhi on the other side, brought about the ruin of both the Hindu kingdoms.

A *swayamvara*, or maiden's choice.

The tale serves to record the dissensions among the Rájput princes, which prevented a united resistance to Muhammad of Ghor. He found Delhi occupied by the Tomára clan, Ajmere by the Chauháns, and Kanauj by the Ráhtors. These Rájput States formed the natural breakwaters against invaders from the north-west. But their feuds are said to have left the King of Delhi and Ajmere, then united under one Chauhán Overlord, only 64 out of his 108 warrior chiefs. In 1193, the Afgháns again swept down on the Punjab. Prithwí Rájá of Delhi and Ajmere[1] was defeated and slain. His heroic princess burned herself on his funeral pile. Muhammad of Ghor, having occupied Delhi, pressed on to Ajmere; and in 1194, overthrew the rival Hindu monarch of Kanauj, whose body was identified on the field of battle by his false teeth. The brave Ráhtor Rájputs of Kanauj, with other of the Rájput clans in Northern India, quitted their homes in large bodies rather than submit to the stranger. They migrated to the regions bordering on the eastern desert of the Indus, and there founded the military kingdoms which bear their name, Rájputána, to this day. History takes her narrative of these events from the matter-of-fact statements of the Persian annalists.[2] But the Hindu court-bard of Prithwí Rájá left behind a patriotic version of the fall of his race. His ballad-chronicle, known as the *Prithwíráj Rásau* of Chánd, is one of the earliest poems in Hindi. It depicts the Musalmán invaders as beaten in all the battles except the last fatal one. Their leader is taken prisoner by the Hindus, and released for a

Distribution of Rájputs, *circ.* 1184.

Rájput migrations into Rájputána.

[1] Descended from the eponymous Rájá Aja of Ajmere, *circ.* 145 A.D.; and on the mother's side, from Anang Pál Tuar, Rájá of Delhi, who adopted him; thus uniting Delhi to Ajmere. See *Imperial Gazetteer*, vol. i. pp. 93, 94.

[2] *Firishta* (i. 161-187), the *Tabakát-i-Násirí* of Minháju-s-Siráj, and others; translated in Sir Henry Elliot's 2d, 5th, and 6th volumes.

heavy ransom. But the quarrels of the chiefs ruined the Hindu cause.

Setting aside these patriot songs, Benares and Gwalior mark the south-western limits of Muhammad of Ghor's own advance. But his general, Bakhtiyár Khiljí, conquered Behar in 1199,[1] and Lower Bengal down to the delta in 1203. On the approach of the Musalmáns, the Bráhmans advised Lakshman Sen, the King of Bengal, to remove his capital from Nadiyá to some more distant city. But the prince, a religious old man of eighty, could not make up his mind until the Afghán general had seized his capital, and burst into the palace one day while his majesty was at dinner. The monarch slipped out by a back door without having time to put on his shoes, and fled to Purí in Orissa, where he spent his remaining days in the service of Jagannáth.[2] Meanwhile the Sultán, Muhammad Ghorí, had divided his time between campaigns in Afghánistán and Indian invasions. Ghazní was his capital, and he had little time to consolidate his Indian conquests. Even in the Punjab, the tribes were defeated rather than subdued. In 1203, the Ghakkars issued from their mountains, took Lahore,[3] and devastated the whole Province.[4] In 1206, a party of the same clan swam the Indus, on the bank of which the Afghán camp was pitched, and stabbed the Sultán while asleep in his tent.[5]

[uham-adan onquest of engal, 203.]

Muhammad of Ghor was no religious knight-errant like Mahmúd of Ghazní, but a practical conqueror. The objects of his distant expeditions were not temples, but Provinces. Subuktigín had left Pesháwar as an outpost of Ghazní (977 A.D.); and Mahmúd had reduced the western Punjab to an outlying Province of the same kingdom (1030 A.D.). That was the net result of the Túrkí invasions of India. But Muhammad of Ghor left the whole north of India, from the delta of the Indus to the delta of the Ganges, under skilful Muhammadan generals, who on his death set up for them-

[uham-ad of hor's ork in ndia, 191-1206.]

[1] *History of Bengal from the first Muhammadan Invasion to* 1757, by Major Charles Stewart, p. 25 (Calcutta, 1847). The nearly contemporary authority is the *Tabakát-i-Násirí* (1227-41); Sir H. Elliot, vol. ii. pp. 307-309.

[2] Stewart, p. 27. The *Tabakát-i-Násirí* merely says 'he went towards Sanknát' (*sic*) (Jagannáth?); Sir H. Elliot, vol. ii. p. 309.

[3] *Firishta*, vol. i. pp. 182-184.

[4] As far south as the country near Múltán, *Táju-l-Ma-ásir*; Sir H. Elliot, vol. ii. pp. 233-235; *Tárikh-i-Alfí*, v. 163. The Muhammadan historians naturally minimize this episode.

[5] Sir H. Elliot, vol. ii. pp. 235, 297, 393. Brigg's *Firishta*, vol. i. pp. 185-6.

selves (1206 A.D.). His Indian Viceroy, Kutab-ud-dín, proclaimed himself sovereign of India at Delhi, and founded a line which lasted from 1206 to 1290. Kutab claimed the control over all the Muhammadan leaders and soldiers of fortune in India from Sind to Lower Bengal. His name is preserved at his capital by the Kutab Mosque, with its graceful colonnade of richly sculptured Hindu pillars, and by the Kutab *Minar*,[1] which raises its tapering shaft, encrusted with chapters from the Kurán, high above the ruins of old Delhi. Kutab-ud-dín had started life as a Túrkí slave, and several of his successors rose by valour or intrigue from the same low condition to the throne. His dynasty is accordingly known as that of the Slave Kings. Under them India became for the first time the seat of resident Muhammadan sovereigns. Kutab-ud-dín died in 1210.[2]

Northern India subdued.

Kutab-ud-dín, 1206-10; first 'Slave King.'

The Slave Dynasty found itself face to face with the three perils which have beset the Muhammadan rule in India from the outset, and beneath which that rule eventually succumbed. First, rebellions by its own servants, Musalmán generals, or viceroys of Provinces; second, revolts of the Hindus; third, fresh invasions, chiefly by Mughals, from Central Asia.

The Slave Dynasty, 1206-90.

Altamsh, the third and greatest Sultán of the line (1211-36 A.D.), had to reduce the Muhammadan Governors of Lower Bengal and Sind, both of whom had set up as independent rulers; and he narrowly escaped destruction by a Mughal invasion. The Mughals under Changíz Khán swept through the Indian passes in pursuit of an Afghán prince; but their progress was stayed by the Indus, and Delhi remained untouched. Before the death of Altamsh (1236 A.D.), the Hindus had ceased for a time to struggle openly; and the Muhammadan Viceroys of Delhi ruled all India on the north of the Vindhyá range, including the Punjab, the North-Western Provinces, Oudh, Behar, Lower Bengal, Ajmere, Gwalior, Málwá, and Sind. The Khálif of Baghdád acknowledged India as a separate Muhammadan kingdom during the reign of Altamsh, and struck coins in recognition of the new empire of Delhi (1229 A.D.).[3] Altamsh died in 1236.

Its difficulties.

Altamsh, 1211-36.

[1] *Imperial Gazetteer*, vol. iii. p. 88.

[2] The original materials for Kutab-ud-dín Aibak's reign are to be found in *Firishta*, vol. i. pp. 189-202 (ed. 1829); and the *Indian Historians*, translated by Sir Henry Elliot, vols. ii. iii. iv. and v.

[3] *Chronicles of the Pathán Kings of Delhi*, by Edward Thomas, p. 46 (Milne, 1871). Original materials for Shams-ud-dín Altamsh: *Firishta*, vol. i. pp. 205-212 (1829); Sir Henry Elliot, vols. ii. iii. iv.

The Empress Raziyá, 1236-39.

His daughter Raziyá was the only lady who ever occupied the Muhammadan throne of Delhi (1236-39 A.D.). Learned in the Kurán, industrious in public business, firm and energetic in every crisis, she bears in history the masculine name of the *Sultán* Raziyá. But the favour which she showed to her master of the horse, an Abyssinian slave, offended her Afghán generals; and after a troubled reign of three and a half years, she was deposed and put to death.[1]

Mughal irruptions, 1244-88.

Mughal irruptions and Hindu revolts soon began to undermine the Slave dynasty. The Mughals are said to have burst through Tibet into North-Eastern Bengal in 1245;[2] and during the next forty-four years, repeatedly swept down the Afghán passes into the Punjab (1244-88). The wild Indian tribes, such as the Ghakkars and the hillmen of Mewát, ravaged the Muhammadan lowlands almost up to the capital.

Rájput revolts.

Rájput revolts foreshadowed that inextinguishable vitality of the Hindu military races, which was to harass, from first to last, the Mughal Empire, and to outlive it. Under the Slave kings, even the north of India was only half subdued to the Muhammadan sway. The Hindus rose again and again in Málwá, Rájputána, Bundelkhand, and along the Ganges and the Jumna, to opposite Delhi itself.[3] The last but one of the Slave line, Balban (1265-87 A.D.), had not only to fight the Mughals, the wild Indian tribes, and the Rájput clans; he was also compelled to watch his own viceroys. Having in his youth entered into a compact for mutual support and advancement with forty of his Túrkí fellow-slaves in the palace, he had, when he came to the throne, to break the powerful confederacy thus formed. Some of his provincial governors he publicly scourged; others were beaten to death in his presence; and a general, who failed to reduce the rebel Muhammadan Viceroy of Bengal, was hanged. Balban himself moved down to the delta, and crushed the Bengal revolt with a merciless skill. His severity against Hindu rebels knew no bounds. He nearly exterminated the Jadún Rájputs of Mewát, on the south of Delhi, putting 100,000 persons to the sword. He

Balban, 1265-87.

His cruelties to the Hindus.

[1] Thomas' *Chronicles of the Pathán Kings*, pp. 104-108; *Firishta*, vol. i. pp. 217-222; Sir Henry Elliot, vols. ii. and iii.

[2] This invasion of Bengal is discredited by the latest and most critical historian; Edward Thomas' *Pathán Kings of Delhi*, p. 121, note (ed. 1871). On the other side, see *Firishta*, vol. i. p. 231, but cf. Col. Brigg's footnote; and the *Tabakát-i-Násirí* in Sir H. Elliot's vol. ii. pp. 264, 344; 'In March 1245, the infidels of Changíz Khán came to the gates of Lakhnautí' (Gaur).

[3] Thomas' *Pathán Kings*, 131.

then cut down the forests which formed their retreats, and opened up the country to tillage. The miseries caused by the the Mughal hordes in Central Asia drove a crowd of princes and poets to seek shelter at the Indian court. Balban boasted that no fewer than fifteen once independent sovereigns had fed on his bounty, and he called the streets of Delhi by the names of their late kingdoms, such as Bághdad, Kharizm, and Ghor. He died in 1287 A.D.[1] His successor was poisoned, and the Slave dynasty ended in 1290.[2]

His fifteen royal pensioners.

In that year Jalál-ud-dín, a ruler of Khiljí, succeeded to the Delhi throne, and founded a line which lasted for thirty years (1290-1320 A.D.). The Khiljí dynasty extended the Muhammadan power into Southern India. Alá-ud-dín, the nephew and successor of the founder, when Governor of Karra,[3] near Allahábád, pierced through the Vindhyá ranges with his cavalry, and plundered the Buddhist temple city of Bhílsa, 300 miles off. After trying his powers against the rebellious Hindu princes of Bundelkhand and Málwá, he conceived the idea of a grand raid into the Deccan. With a band of only 8000 horse, he rode into the heart of Southern India. On the way he gave himself out as flying from his uncle's court, to seek service with the Hindu King of Rájámahendri. The generous Rájput princes abstained from attacking a refugee in his flight, and Alá-ud-dín surprised the great city of Deogirí, the modern Daulatábád, at that time the capital of the Hindu kingdom of Máharáshtra. Having suddenly galloped into its streets, he announced himself as only the advance guard of the whole imperial army, levied an immense booty, and carried it back 700 miles to the seat of his Governorship on the banks of the Ganges. He then lured the Sultán Jalál-ud-dín, his uncle, to Karra, in order to divide the spoil; and murdered the old man in the act of clasping his hand (1295 A.D.).[4]

House of Khiljí, 1290-1320.

Alá-ud-dín's Southern raids, 1294.

Alá-ud-dín scattered his spoils in gifts or charity, and proclaimed himself Sultán (1295-1315 A.D.).[5] The twenty years of his reign established the Muhammadan sway in Southern

Reign of Alá-ud-dín, 1295-1315.

[1] Materials for the reign of Balban (Ghiyás-ud-dín Balban): Sir Henry Elliot's *Indian Historians*, vol. iii. pp. 38, 97, 546, 593 (1871); *Firishta*, vol. i. pp. 247-272 (1829).

[2] Mr. E. Thomas' *Pathán Kings*, pp. 138-142.

[3] Forty miles north-west of Allahábád, once the capital of an important fief, now a ruined town. See *Imperial Gazetteer*, vol. v. p. 279.

[4] Thomas' *Pathán Kings*, p. 144.

[5] Materials for the reign of Alá-ud-dín Khiljí: Sir Henry Elliot's *Indian Historians*, vol. iii. (1871); *Firishta*, vol. i. pp. 321-382 (1829).

Alá-ud-dín's reconquest of N. India, 1295-1303.

India. He reconquered Guzerat from the Hindus in 1297; captured Rintimbur,[1] after a difficult siege, from the Jáipur Rájputs in 1300; took the fort of Chittor, and partially subjected the Sesodia Rájputs (1303); and having thus reduced the Hindus on the north of the Vindhyás, prepared for the conquest of the Deccan. But before starting on this great expedition, he had to meet five Mughal inroads from the north. In 1295, he defeated a Mughal invasion under the walls of his capital, Delhi; in 1304-5, he encountered four others, sending all prisoners to Delhi, where the chiefs were trampled by elephants, and the common soldiery slaughtered in cold blood. He crushed with equal severity several rebellions which took place among his own family during the same period; first putting out the eyes of his insurgent nephews, and then beheading them (1299-1300).

His conquest of Southern India, 1303-15.

His affairs in Northern India being thus settled, he undertook the conquest of the South. In 1303, he had sent his eunuch slave, Malik Káfur, with an army through Bengal, to attack Warangal, the capital of the Hindu kingdom of Telingána. In 1306, Káfur marched victoriously through Málwá and Khándesh into the Marhattá country, where he captured Deogiri, and persuaded the Hindu king Rám Deo to return with him to do homage at Delhi. While the Sultán Alá-ud-dín was conquering the Rájputs in Márwár, his slave general, Káfur, made expeditions through the Karnatic and Maháráshtra, as far south as Adam's Bridge, at the extremity of India, where he built a mosque.

His general, Málik Káfur.

Extent of the Muhammadan power in India, 1306.

The Muhammadan Sultán of India was no longer merely an Afghán king of Delhi. Three great waves of invasion from Central Asia had created a large Muhammadan population in Northern India. First came the Túrkís, represented by the house of Ghazní; then the Afgháns (commonly so called), represented by the house of Ghor; finally the Mughals, having failed to conquer the Punjab, took service in great numbers with the Sultáns of Delhi. Under the Slave Kings the Mughal mercenaries had become so powerful as to require to be massacred (1286). About 1292, three thousand Mughals, having been converted from their old Tartar rites to Muhammadanism, received a suburb of Delhi, still called Mughalpur, for their residence. Others followed. After various plots, Alá-ud-dín slaughtered 15,000 of the settlers, and sold their families as slaves (1311 A.D.). The unlimited supply of soldiers which he could thus draw upon from the Túrkí, Afghán, and Mughal

Muhammadan population in India, 1286-1311.

[1] See article RINTIMBUR, *Imperial Gazetteer*, vol. viii. p. 60.

races in Northern India and the countries beyond, enabled him to send armies farther south than any of his predecessors. But in his later years, the Hindus revolted in Guzerat; the Rájputs reconquered Chittor; and many of the Muhammadan garrisons were driven out of the Deccan. On the capture of Chittor in 1303, the garrison had preferred death to submission. The peasantry still chant an early Hindi ballad, telling how the queen and thirteen thousand women threw themselves on a funeral pile, while the men rushed upon the swords of the besiegers. A remnant cut their way to the Aravalli Hills; and the Rájput independence, although in abeyance during Alá-ud-dín's reign, was never crushed. Having imprisoned his sons, and given himself up to paroxysms of rage and intemperance, Alá-ud-dín died in 1315, helped to the grave, it is said, by poison given by his favourite general, Káfur.

Mughal mercenaries, 1286-1311.

Hindu revolts.

During the four remaining years of the house of Khiljí, the actual power passed to Khusrú Khán, a low-caste renegade Hindu, who imitated the military successes and vices of his patron, Káfur, and personally superintended his murder.[1] Khusrú became all in all to the debauched Emperor Mubárik; then slew him, and seized the throne. While outwardly professing Islám, Khusrú desecrated the Kurán by using it as a seat, and degraded the pulpits of the mosques into pedestals for Hindu idols. In 1320 he was slain, and the Khiljí dynasty disappeared.[2]

A renegade Hindu Emperor, 1316-20.

The leader of the rebellion was Ghiyás-ud-dín Tughlak, who had started life as a Túrkí slave, and risen to the frontier Governorship of the Punjab. He founded the Tughlak dynasty, which lingered on for ninety-six years (1320-1414), although submerged by the invasion of Timúr (Tamerlane) in 1398. Ghiyás-ud-dín (1320-24 A.D.) removed the capital from Delhi to a spot about 4 miles farther east, and called it Tughlakábád.

House of Tughlak, 1320-1414.

His son and successor, Muhammad Tughlak (1324-51), was an accomplished scholar, a skilful captain, and a severely abstinent man.[3] But his ferocity of temper, perhaps inherited from the tribes of the steppes, rendered him merciless as a judge and careless of human suffering. The least opposition drove him

Muhammad Tughlak, 1324-51.

[1] Thomas' *Pathán Kings*, pp. 178-179.

[2] *Idem*, pp. 184-185.

[3] Materials for his reign: Sir Henry Elliot's *Indian Historians*, vols. i. iii. v. vi. vii.; *Firishta*, vol. i. pp. 408-443 (ed. 1829); Elphinstone's narrative of this reign is an admirable specimen of his spirited style of work, pp. 403-410 (ed. 1866).

Muhammad Tughlak's mad expeditions, 1324-51.

into outbursts of insane fury. He wasted the treasures accumulated by Alá-ud-dín in buying off the Mughal hordes, who again and again swept down on the Punjab. On the other hand, in fits of ambition, he raised an army for the invasion of Persia, and sent out an expedition of 100,000 men against China. The first force broke up for want of pay, and plundered his own dominions; the second perished almost to a man in the Himálayan passes. He planned great conquests into Southern India, and dragged the whole inhabitants of Delhi to Deogiri, to which he gave the name of Daulatábád, 800 miles off. Twice he allowed the miserable suppliants to return to Delhi; twice he compelled them on pain of death to quit it. One of these forced migrations took place amid the horrors of a famine; the citizens perished by thousands, and in the end, the king had to give up the attempt. Having drained his treasury, he issued a forced currency of copper coins, by which he tried to make the king's brass equal to other men's silver.[1] During the same century, the Mughal conqueror of China, Kublai Khán, had expanded the use of paper notes, early devised by the Chinese; and Kai Khátú had introduced a bad imitation of it into Persia. Tughlak's forced currency quickly brought its own ruin. Foreign merchants refused the worthless brass tokens, trade came to a stand, and the king had to take payment of his taxes in his own depreciated coinage.

His cruelties.

His forced currency.

Revolt of the Provinces, 1338-51.

Meanwhile, the Provinces began to throw off the Delhi yoke. Muhammad Tughlak had succeeded in 1324 to the greatest empire which had, up to that time, acknowledged a Muhammadan Sultán in India. But his bigoted zeal for Islám forbade him to trust either Hindu princes or Hindu officers; and he thus found himself compelled to fill every high post with foreign Muhammadan adventurers, who had no interest in the stability of his rule. The annals of the period present a long series of outbreaks, one part of the Empire throwing off its allegiance as soon as another had been brought back to subjection. His own nephew rebelled in Málwá, and being caught, was flayed alive (1338). The Punjab governor revolted (1339), was crushed, and put to death. The Musalmán Viceroys of Lower Bengal and of the Coromandel coast set up for themselves (about 1340), and could not be subdued. The Hindu kingdoms of Karnáta and Telingána recovered their independence (1344), and expelled the Musalmán

He flays his nephew.

[1] Thomas' *Pathán Kings*, p. 243. See the whole monograph entitled 'Muhammad Bin Tughlak's Forced Currency,' pp. 239-261.

garrisons. The Muhammadan governors in the Deccan also revolted, while the troops in Guzerat rose in mutiny. Muhammad Tughlak rushed with an army to the south to take vengeance on the traitors, but hardly had he put down their rising than he was called away by insurrections in Guzerat, Málwá, and Sind. He died in 1351, while chasing rebels in the lower valley of the Indus.

His reign one long revolt.

Muhammad Tughlak was the first Musalmán ruler of India who can be said to have had a revenue system. He increased the land tax between the Ganges and the Jumna; in some Districts tenfold, in others twentyfold. The husbandmen fled before his tax-gatherers, leaving their villages to lapse into jungle, and formed themselves into robber clans. He cruelly punished all who trespassed on his game preserves; and he invented a kind of man-hunt without precedent in the annals of human wickedness. He surrounded a large tract with his army, 'and then gave orders that the circle should close towards the centre, and that all within it (mostly inoffensive peasants) should be slaughtered like wild beasts. This sort of hunt was more than once repeated; and on a subsequent occasion, there was a general massacre of the inhabitants of the great city of Kanauj. These horrors led in due time to famine; and the miseries of the country exceeded all powers of description.'[1]

Muhammad Tughlak's revenue exactions, 1325-51.

His 'man-hunt.'

His son, Fíruz Tughlak (1351-88), ruled mercifully, but had to recognise the independence of the Muhammadan kingdoms of Bengal and the Deccan, and suffered much from bodily infirmities and court intrigues.[2] He undertook many public works, such as dams across rivers for irrigation, tanks, caravan-saráis, mosques, colleges, hospitals, and bridges. But his greatest achievement was the old Jumna Canal. This work drew its waters from the Jumna, near a point where it leaves the mountains, and connected that river with the Ghaggar and the Sutlej by irrigation channels.[3] Part of it has been reconstructed by the British Government, and spreads a margin of fertility on either side to this day. But the dynasty of Tughlak soon sunk amid Muhammadan mutinies and Hindu revolts, and left India an easy prey to the great Mughal invasion of 1398.

Fíruz Sháh Tughlak, 1351-88.

His canals.

[1] Elphinstone's *History of India*, pp. 405, 406 (ed. 1866).

[2] Materials for his reign: Sir Henry Elliot's *Indian Historians*, vols. i. iii. iv. vi. viii.; *Firishta*, vol. i. pp. 444-465 (ed. 1829).

[3] Thomas' *Pathán Kings*, p. 294. See article JUMNA CANAL, WESTERN, *Imperial Gazetteer*, vol. v. pp. 121, 122.

Timúr's (Tamerlane's) invasion, 1398.

In that year, Timúr (Tamerlane) swept through the Afghán passes at the head of the united hordes of Tartary. He defeated the Tughlak King, Mahmúd, under the walls of Delhi, and entered the capital. During five days, a massacre raged; 'some streets were rendered impassable by heaps of dead;'[1] while Timúr calmly looked on and held a feast in honour of his victory. On the last day of 1398, he resumed his march, with a 'sincere and humble tribute of grateful praise' to God, in Fíruz's marble mosque on the banks of the Jumna. He crossed the Ganges, and proceeded as far as Hardwár, after a great massacre at Meerut. Then, skirting the foot of the hills, he retired westwards into Central Asia (1399). Timúr left no traces of his power in India, save desolate cities. On his departure, Mahmúd Tughlak crept back from his retreat in Guzerat, and nominally ruled till 1412. The Tughlak line ended in 1414. The Sayyid dynasty ruled from 1414 till 1450, and the Afghán house of Lodi from 1450 to 1526. But some of these Sultáns reigned over only a few miles round Delhi; and during the whole period, the Hindu princes and the local Muhammadan kings were practically independent throughout the greater part of India. The house of Lodi was crushed beneath the Mughal invasion of Bábar in 1526.

Ruin of the Tughlaks, 1399.

The Sayyids, 1414-50.

The Lodís, 1450-1526.

Hindu kingdoms of the Deccan.

Bábar founded the Mughal Empire of India, whose last representative died a British State prisoner at Rangoon in 1862. Before entering on the story of that empire, I turn to the kingdoms, Hindu and Muhammadan, on the south of the Vindhyá range. The three ancient kingdoms, Chera, Chola, and Pándia occupied, as we have seen,[2] the Dravidian country peopled by Támil-speaking races. Pándia, the largest of them, had its capital at Madura, and traces its foundation to the 4th century B.C. The Chola kingdom had its headquarters successively at Combaconum and Tanjore. Talkád, in Mysore, now buried by the sands of the Káveri, was the capital of the Chera kingdom. The 116th king of the Pándia dynasty was overthrown by the Muhammadan general Malik Káfur in 1304. But the Musalmáns failed to establish their power in the extreme south, and a series of Hindu dynasties ruled from Madura over the old Pándia kingdom until the 18th century. No European kingdom can boast a continuous succession such as that of Madura, traced back by

Chera, Chola, and Pándia.

[1] *Firishta*, vol. i. p. 493. His whole account of Timúr's invasion is very vivid, vol. i. pp. 485-497 (ed. 1829).

[2] *Ante*, p. 318; and articles CHERA, CHOLA, PANDIA, *Imp. Gaz.* vols. ii. vii.

the piety of genealogists to the 4th century B.C. The Chera kingdom enumerates fifty kings, and the Chola sixty-six, besides minor dynasties.

Kingdom of Vijayanagar, 1118-1565.

But authentic history in Southern India begins with the Hindu kingdom of Vijayanagar or Narsinha, from 1118 to 1565 A.D. The capital can still be traced within the Madras District of Bellary, on the right bank of the Tungabhadra river,—vast ruins of temples, fortifications, tanks, and bridges, haunted by hyænas and snakes. For at least three centuries, Vijayanagar ruled over the southern part of the Indian triangle. Its Rájás waged war and made peace on equal terms with the Muhammadan Sultáns of the Deccan.

Muhammadan States in the Deccan, 1303.

Those Sultáns derived their origin from the conquests of Alá-ud-dín (1303-06). After a period of confused fighting, the Bahmaní kingdom of the Deccan emerged as the representative of Muhammadan rule in Southern India. Zafar Khán, an Afghán general during the reign of Muhammad Tughlak (1325-51), defeated the Delhi troops, and set up as Musalmán sovereign of the Deccan. Having in early youth been the slave of a Bráhman who had treated him kindly and foretold his future greatness, he took the title of Bahmaní,[1] and transmitted it to his successors.

The Bahmaní dynasty, 1347-1525.

The rise of the Bahmaní dynasty is usually assigned to the year 1347, and it lasted for 178 years, until 1525.[2] Its capitals were at Gulbargah, Warangal, and Bídar, all in the Haidarábád territory; and it loosely corresponded with the Nizám's Dominions of the present day. At the height of their power, the Bahmaní kings claimed sovereignty over half the Deccan, from the Tungabhadra river in the south to Orissa in the north, and from Masulipatam on the east to Goa on the west. Their direct government was, however, much more confined. They derived support, in their early struggle against the Delhi throne, from the Hindu southern kingdoms of Vijayanagar and Warangal. But during the greater part of its career, the Bahmaní dynasty represented the cause of Islám against Hinduism on the south of the Vindhyás. Its alliances and its wars alike led to a mingling of the Musalmán and Hindu populations. For example, the King of Málwá invaded the

[1] His royal name in full was Sultán (or Sháh) Alá-ud-dín Gángo Bahmaní.

[2] I take these extreme dates from E. Thomas' *Pathán Kings*, pp. 340, 341. Materials for the Bahmaní dynasty: Sir Henry Elliot's *Indian Historians*, vols. iv. vii. viii.; *Firishta*, vol. ii. pp. 283-558 (ed. 1829).

Bahmaní kingdom, 1347-1525.

Bahmaní dominions with a mixed force of 12,000 Afgháns and Rájputs. The Hindu Rájá of Vijayanagar recruited his armies from Afghán mercenaries, whom he paid by assignments of land, and for whom he built a mosque. The Bahmaní troops, on the other hand, were frequently led by converted Hindus.

Mingling of Hindus and Musalmáns.

The Bahmaní armies were themselves made up of two hostile sects of Musalmáns. One sect consisted of Shiás, chiefly Persians, Túrks or Tartars from Central Asia; the other, of native-born Musalmáns of Southern India, together with Abyssinian mercenaries, both of whom professed the Sunni faith. The rivalry between these Musalmán sects frequenty imperilled the Bahmaní throne. Its dynasty reached its highest power under Alá-ud-dín II. about 1437, and was broken up by its discordant elements between 1489 and 1525.

Fall of Bahmaní dynasty, 1489-1525.

Out of its fragments, five independent Muhammadan kingdoms in the Deccan were formed. These were—(1) The Adil Sháhí dynasty, with its capital at Bijápur, founded in 1489 by a son of Amurath II., Sultán of the Ottomans; annexed by the Mughal Emperor Aurangzeb in 1686-88. (2) The Kutab Sháhí dynasty, with its capital at Golconda, founded in 1512 by a Túrkomán adventurer; also annexed by Aurangzeb in 1687-88. (3) The Nizám Sháhí dynasty, with its capital at Ahmednagar, founded in 1490 by a Bráhman renegade from the Vijayanagar Court; subverted by the Mughal Emperor Sháh Jahán in 1636. (4) The Imad Sháhí dynasty of Berar, with its capital at Ellichpur, founded in 1484 also by a Hindu from Vijayanagar; annexed to the Ahmednagar kingdom (No. 3) in 1572. (5) The Baríd Sháhí dynasty, with its capital at Bídar, founded 1492-1498 by a Túrk or Georgian slave. Territories small and undefined; independent till after 1609; Bídar fort taken by Aurangzeb in 1657.

Five Muhammadan States of the Deccan, 1489-1686.

Fall of Hindu kingdom of Vijayanagar.

It is beyond my scope to trace the history of these local Muhammadan dynasties of Southern India. They preserved their independence until the firm establishment of the Mughal Empire in the north, under Akbar's successors. For a time they had to struggle against the great Hindu kingdom of Vijayanagar. But in 1565 they combined against that power, and, aided by a rebellion within its own borders, they overthrew it at Tálikot in 1565. The battle of Tálikot marks the final downfall of Vijayanagar as a centralized Hindu kingdom. But its local Hindu chiefs or Náyaks seized upon their respective fiefs, and the Muhammadan kings of the south were only able to annex a part of its dominions. From the Náyaks are descended the well-known Pálegárs of the Madras Presi-

Battle of Tálikot, 1565.

dency, and the present Mahárájá of Mysore. One of the blood-royal of Vijayanagar fled to Chandragiri, and founded a line which exercised a prerogative of its former sovereignty by granting the site of Madras to the English in 1639. Another scion, claiming the same high descent, lingers to the present day near the ruins of Vijayanagar, and is known as the Rájá of Anagundi, a feudatory of the Nizám of Haidarábád. The independence of the local Hindu chiefs in Southern India, throughout the Muhammadan period, is illustrated by the Manjarábád family, which maintained its authority from 1397 to 1799.[1]

Lower Bengal threw off the authority of Delhi in 1340. Its Muhammadan governor, Fakír-ud-dín, set up as sovereign, with his capital at Gaur, and stamped coin in his own name. A succession of twenty independent kings ruled until 1538, when Bengal was temporarily annexed to the Mughal Empire by Humáyún. It was finally incorporated with that empire by Akbar in 1576. The great Province of Guzerat in Western India had in like manner grown into an independent Muhammadan kingdom, which lasted for two centuries, from 1391 till conquered by Akbar in 1573. Málwá, which had also set up as an independent State under its Muhammadan governors, was annexed by the King of Guzerat in 1531. Even Jaunpur, including the territory of Benares, in the centre of the Gangetic valley, maintained its independence as a Musalmán State for nearly a hundred years from 1393 to 1478, under the disturbed rule of the Sayyids and the first Lodí at Delhi.

Independence of Bengal, 1340-1576; Of Guzerat, 1391-1573; Of Jaunpur, 1393-1478.

THE MUGHAL DYNASTY.—When, therefore, BABAR invaded India in 1526, he found it divided among a number of local Muhammadan kings and Hindu princes. An Afghán Sultán of the house of Lodí, with his capital at Agra, ruled over what little was left of the historical kingdom of Delhi.[2] Bábar,[3] literally the Lion, born in 1482, was the sixth in descent from Timúr the Tartar. At the early age of twelve, he succeeded his father in the petty kingdom of Ferghána on the Jaxartes (1494); and after romantic adventures, conquered Samarkand, the capital of Tamerlane's line in 1497. Overpowered by rebellion, and driven out of the Valley of the Oxus, he seized the kingdom of Kábul in 1504. During twenty-two years, he grew in strength

State of India in 1526.

Early life of Bábar, 1482-1526.

[1] See *post*, p. 385; and article MANJARABAD, *Imperial Gazetteer*, vi. 321.

[2] Bábar gives an epitome of the Muhammadan and Hindu States of India at the time of his conquest, in his *Memoirs*, translated by Leyden and Erskine. (Quarto, 1826.)

[3] Tartar soubriquet; his real name was Zahír-ud-dín Muhammad.

Invades India, 1526. Battles of Pánipat. Conquers Northern India, 1526-30.

on the Afghán side of the India passes, till in 1526 he burst through them into the Punjab, and defeated the Delhi sovereign Ibráhím Lodí at Pánipat. This was the first of the three great battles which decided the fate of India on that same plain, viz. in 1526, 1556, and 1761.[1] Having entered Delhi, he received the allegiance of the Muhammadans, but was speedily attacked by the Rájputs of Chittor. Those clans had extended their power throughout Ajmere, Mewár, and Málwá, and now threatened to establish a Hindu empire. In 1527, Bábar defeated them at Fatehpur Síkri near Agra, after a battle memorable for its perils and for Bábar's vow, in his extremity, never again to touch wine. He rapidly extended his power as far as Múltán in the Southern Punjab, and Behar in the eastern valley of the Ganges. He died at Agra in 1530,[2] leaving an Empire which stretched from the river Amu in Central Asia to the borders of the Gangetic delta in Lower Bengal.

Humáyún, Emperor, 1530-56.

His son, HUMAYUN, succeeded him in India, but had to make over Kábul and the Western Punjab to his rival brother Kámrán.[3] Humáyún was thus left to govern a new conquest,

[1] See article PANIPAT, *Imperial Gazetteer*, vol. vii. pp. 287-290. Materials for Bábar's reign: his own *Memoirs*, translated by Leyden and Erskine, 4to, 1826; Thomas' *Pathán Kings*, pp. 378-391; Sir Henry Elliot's *Indian Historians*, vols. i. iv. v.; *Firishta*, ii. pp. 1-69.

[2] BABAR IN INDIA, 1526-30:—

A.H.	A.D.	
932	1526	Defeat and death of Ibráhim Lodí at Pánipat, and victorious entry of Bábar into Delhi.
,,	,,	Capture of Jaunpur by Humáyún, son of Bábar.
,,	,,	Surrender of Biána, Gwalior, and Múltán to his troops.
933	1527	Defeat of Ráná Sanga at Fatehpur Síkri; Bábar assumes the title of Ghází on this occasion.
934	1528	Capture of Chanderi (Madíni Ráo's stronghold) by Bábar.
,,	,,	Occupation of Lucknow by Bábar's army.
,,	,,	Occupation of Rintimbur by Bábar's army.
935	1529	Behar subdued by Bábar's army, and entrusted to Muhammad Zamán Mírzá.
,,	,,	Final defeat of the troops of the Afghán coalition by Bábar's army; treaty with Nasrat Sháh of Bengal.
937	1530	Bábar's death at Agra.

For dates see Thomas' *Pathán Kings*, pp. 378, 379 (ed. 1871).

[3] REIGN OF HUMAYUN:—

A.D.

1530. Accession to the throne. Capture of Lahore and occupation of the Punjab by his rival brother Kámrán. Final defeat of the Lodís under Mahmúd Lodí, and acquisition of Jaunpur by Humáyún.

1532. Humáyún's campaigns in Málwá and Guzerat.

1539. Humáyún defeated by Sher Sháh, the Afghán ruler of Bengal, at Chapar Ghát, near Baxár, the Mughal army being utterly routed. Retreats to Agra.

[1540.

and at the same time was deprived of the base from which his father had drawn his supplies. The Mughal hordes who had accompanied Bábar were more hateful to the long settled Indian Afgháns than the Hindus themselves. After ten years of fighting, Humáyún was driven out of India by the Bengali Afgháns under Sher Sháh, the Governor of Bengal. While flying through the desert of Sind, as an exile to Persia, his famous son Akbar was born to him in the petty fort of Umarkot (1542). Sher Sháh set up us Emperor, but was killed while storming the rock fortress at Kálinjar (1545). His son succeeded to his power. But under his grandson, the third of the Afghán house, the Provinces revolted, including Málwá, the Punjab, and Bengal. Humáyún returned to India, and Akbar, then only in his thirteenth year, defeated the Afghán army after a desperate battle at Pánipat (1556). India now passed finally from the Afgháns to the Mughals. Sher Sháh's line disappears; and Humáyún, having recovered his Kábul dominions, reigned again for a few months at Delhi, but died in 1556.

Humáyún expelled by Sher Sháh.

Afghán dynasty of Delhi, 1540-56.

Regains his throne.

AKBAR THE GREAT, the real founder of the Mughal Empire as it existed for two centuries, succeeded his father at the age of fourteen.[1] Born in 1542, his reign lasted for almost fifty years, from 1556 to 1605, and was therefore contemporary with that of our own Queen Elizabeth (1558-1603). His father, Humáyún, left but a small kingdom in India, scarcely extending beyond the districts around Agra and Delhi. At the time of Humáyún's death, Akbar was absent in the Punjab under the guardianship of Bairám Khán, fighting the revolted Afgháns. Bairám, a Túrkomán by birth, had been the support of the exiled Humáyún, and held the real command of the army which restored him to his throne at Pánipat. He now became the Regent for the youthful Akbar, under the honoured title of Khán Bába, equivalent to 'the King's Father.' Brave and skilful as a general, but harsh and overbearing, he

Akbar the Great, 1556-1605.

Bairám, Regent, 1556-60.

1540. Humáyún finally defeated by Sher Sháh near Kanauj, and escapes to Persia as an exile. Sher Sháh ascends the Delhi throne.

1556. Humáyún's return to India, and defeat of the Afgháns at Pánipat by his young son Akbar. Remounts the throne, but dies in a few months, and is succeeded by his son Akbar.

For dates see Thomas' *Pathán Kings*, pp. 379-380. Materials for Humáyún's reign: Sir Henry Elliot's *Indian Historians*, vols. iv. v. vi.; *Firishta*, vol. ii. pp. 154-180 (1829); Elphinstone, pp. 441-472 (1866).

[1] Materials for reign of Akbar: the *Aín-i-Akbarí*, of Abul Fazl (old translation by Francis Gladwin, 2 vols., 1800; best edition by Professor Blochmann, Calcutta, left, I believe, unfinished at his death); Sir Henry Elliot's *Indian Historians*, vols. i. v. and vi.; *Firishta*, vol. ii. pp. 181-282; Elphinstone, 495-547 (1866).

Akbar reigns for himself, 1560.

raised many enemies; and Akbar, having endured four years of thraldom, took advantage of a hunting party to throw off his minister's yoke (1560). The fallen Regent, after a struggle between his loyalty and his resentment, revolted, was defeated, but pardoned. Akbar granted him a liberal pension; and Bairám was in the act of starting on a pilgrimage to Mecca, when he fell beneath the knife of an Afghán assassin, whose father he had slain in battle.

Akbar's work in India.

The chief events in the reign of Akbar are summarized below.[1] India was seething with discordant elements. The earlier invasions by Túrks, Afgháns, and Mughals had left a powerful Muhammadan population in India under their own chiefs. Akbar reduced these Musalmán States to Provinces of the Delhi Empire. Many of the Hindu kings and Rájput nations had also regained their independence; Akbar brought them into political dependence to his authority. This double task he effected partly by force of arms, but in part also by alliances. He enlisted the Rájput princes by marriage and by a sympathetic policy in the support of his throne. He then employed them in high posts, and played off his Hindu generals and Hindu ministers against the Mughal party in Upper India, and against the Afghán faction in Bengal.

Conciliation of Hindus.

On his accession in 1556, he found the Indian Empire confined to the Punjab, with the districts around Agra and Delhi.

[1] REIGN OF AKBAR, 1556-1605:—

1542. Born at Umarkot in Sind.

1555-56. Regains the Delhi throne for his father by the great victory over the Afgháns at Pánipat (Bairám Khán in actual command). Succeeds his father after a few months in 1556, under regency of Bairám Khán.

1560. Akbar assumes the direct management of the kingdom. Revolt of Bairám, who is defeated and pardoned.

1566. Invasion of the Punjab by Akbar's rival brother Hákim, who is defeated.

1561-68. Akbar subjugates the Rájput kingdoms to the Mughal Empire.

1572-73. Akbar's campaign in Guzerat, and its reannexation to the Empire.

1576. Akbar's reconquest of Bengal, its final annexation to the Mughal Empire.

1581-93. Insurrection in Guzerat. The Province finally subjugated in 1593 to the Mughal Empire.

1586. Akbar's conquest of Kashmír; its final revolt quelled in 1592.

1592. Akbar's conquest and annexation of Sind to the Mughal Empire.

1594. His subjugation of Kandahár, and consolidation of the Mughal Empire over all India north of the Vindhyás as far as Kábul and Kandahár.

1595. Unsuccessful expedition of Akbar's army to the Deccan against Ahmednagar under his son Prince Murád.

1599. Second expedition against Ahmednagar by Akbar in person. Captures the town, but fails to establish Mughal rule.

He quickly extended it at the expense of his nearest neighbours, namely, the Rájputs. Jáipur was reduced to a fief of the Empire; and Akbar cemented his conquest by marrying the daughter of its Hindu prince. Jodhpur was in like manner overcome; and Akbar married his heir, Salím, who afterwards reigned under the title of Jahángír, to the grand-daughter of the Rájá. The Rájputs of Chittor were overpowered after a long struggle, but would not mingle their high-caste Kshattriyan blood even with that of an Emperor. They found shelter among the mountains and in the deserts of the Indus, whence they afterwards emerged to recover most of their old dominions, and to found their capital of Udáipur, which they retain to this day. They still boast that alone, among the great Rájput clans, they never gave a daughter in marriage to a Mughal Emperor. Akbar pursued his policy of conciliation towards every Hindu State.

Akbar extends the Empire.

Reduction of Rájputs, 1561-68.

He also took care to provide a career for the lesser Hindu nobility. He appointed his brother-in-law, the son of the Jáipur Rájá, Governor of the Punjab. Rájá Man Sinh, also a Hindu relative, did good war-service for Akbar from Kábul to Orissa, and ruled as his Governor of Bengal from 1598 to 1604. His great finance minister, Rájá Todar Mall, was likewise a Hindu, and carried out the first land settlement and survey of India. Out of 415 *mansabdárs*, or commanders of horse, 51 were Hindus. Akbar abolished the *jaziah*, or tax on non-Musalmáns, and placed all his subjects upon a political equality. He had the Sanskrit sacred books and epic poems translated into Persian, and showed a keen interest in the literature and religion of his Hindu subjects. He respected their laws, but he put down their inhumane rites. He forbade trial by ordeal, animal sacrifices, and child marriages before the age of puberty. He legalized the remarriage of Hindu widows, but he failed to abolish widow-burning on the husband's funeral pile, although he took steps to ensure that the act was a voluntary one.

Employment of Hindus.

Man Sinh.

Todar Mall.

Reform of Hindu customs.

Akbar thus incorporated his Hindu subjects into the effective machinery of his empire. With their aid he reduced the independent Muhammadan kings of Northern India. He subjugated the Musalmán potentates from the Punjab to Behar. After a struggle, he wrested Bengal from its Afghán

Indian Muhammadan States reduced by Akbar.

1601. Annexation of Khándesh, and return of Akbar to Northern India.
1605. His death at Agra.

N.B.—Such phrases as 'Akbar's conquest' or 'Akbar's campaign' mean the conquest or campaign by Akbar's armies, and do not necessarily imply his personal presence.

princes of the house of Sher Sháh, who had ruled it from 1539 to 1576. From the latter date, Bengal remained during two centuries a Province of the Mughal Empire, under governors appointed from Delhi (1576-1765). In 1765, it passed by an imperial grant to the British. Orissa, on the Bengal seaboard, submitted to Akbar's armies under his Hindu general, Todar Mall, in 1574. On the opposite coast of India, Guzerat was reconquered from its Muhammadan king (1572-73), although not finally subjugated until 1593. Málwá had been reduced in 1572. Kashmír was conquered in 1586, and its last revolt quelled in 1592. Sind was also annexed in 1592; and by the recovery of Kandahár in 1594, Akbar had extended the Mughal Empire from the heart of Afghánistán across all India north of the Vindhyás to Orissa and Sind. He removed the seat of government from Delhi to Agra, and founded Fatehpur Síkrí as the future capital of the Empire. From this project he was afterwards dissuaded, by the superior position of Agra on the great water-way of the Jumna. In 1566, he built the Agra fort, whose red sandstone battlements majestically overhang the river to this day.

Capital changed from Delhi to Agra.

Akbar's efforts in Southern India.

His efforts to establish the Mughal Empire in Southern India were less successful. Those efforts began in 1586, but during the first twelve years were frustrated by the valour and statesmanship of Chánd Bíbí, the queen-regent of Ahmednagar. This celebrated lady skilfully united the Abyssinian and the Persian factions[1] in the Deccan, and strengthened herself by an alliance with Bijápur and other Muhammadan States of the south. In 1599, Akbar led his armies in person against the princess; but, notwithstanding her assassination by her mutinous troops, Ahmednagar was not reduced till the reign of Sháh Jahán, in 1637. Akbar subjugated Khándesh, and with this somewhat precarious annexation, his conquests in the Deccan ceased. He returned to Northern India, perhaps feeling that the conquest of the south was beyond the strength of his young Empire. His last years were rendered unhappy by the intrigues of his family, and by the misconduct of his beloved son, Prince Salím, afterwards Jahángír. In 1605, he died, and was buried in the noble mausoleum at Sikandra, whose mingled architecture of Buddhist design and Arabesque tracery bear witness to the composite faith of the founder of the Mughal Empire. In 1873, the British Viceroy, Lord Northbrook, presented a cloth of honour to cover the plain marble slab beneath which Akbar lies.

Only annexed Khándesh.

His death.

[1] Professing the hostile Sunni and Shiá sectarian creeds, *ante*, p. 336.

Akbar's conciliation of the Hindus, and his interest in their literature and religion, made him many enemies among the pious Musalmáns. His favourite wife was a Rájput princess; another of his wives is said to have been a Christian. On Fridays (the Sabbath of Islám) he loved to collect professors of many religions around him. He listened impartially to the arguments of the Bráhman and the Musalmán, the fire-worshipper, the Jew, the Jesuit, and the sceptic philosopher. The history of his life, the *Akbar-námah*, records such a conference, in which the Christian priest Redíf disputed with a body of Muhammadan *mullás* before an assembly of the doctors of all religions, and is given the best of the argument. Starting from the broad ground of general toleration, Akbar was gradually led on by the stimulus of cosmopolitan discussion to question the truth of his inherited beliefs. The counsels of his friend Abul Fazl, coinciding with that sense of superhuman omnipotence which is bred of despotic power, led him at last to promulgate a new State religion, 'The Divine Faith,' based upon natural theology, and comprising the best practices of all known creeds. Of this eclectic creed Akbar himself was the prophet, or rather the head of the Church. Every morning he worshipped in public the sun, as the representative of the divine soul which animates the universe, while he was himself worshipped by the ignorant multitude. It is doubtful how far he encouraged this popular adoration, but he certainly allowed his disciples to prostrate themselves before him in private. The stricter Muhammadans accused him, therefore, of accepting a homage permitted only to God.

Akbar's religious principles.

His new faith.

Divine honours to Akbar.

Akbar not only subdued all India to the north of the Vindhyá Mountains, he also organized it into an Empire. He partitioned it into Provinces, over each of which he placed a Governor, or Viceroy, with full civil and military control. This control was divided into three departments—the military, the judicial, including the police, and the revenue. With a view to preventing mutinies of the troops, or assertions of independence by their leaders, he reorganized the army on a new basis. He substituted, as far as possible, money payments to the soldiers, for the old system of grants of land (*jágírs*) to the generals. Where this change could not be carried out, he brought the holders of the old military fiefs under the control of the central authority at Delhi. He further checked the independence of his provincial generals by a sort of feudal organization, in which the Hindu tributary princes took their place side by side with the Mughal nobles. The

Akbar's organization of the Empire.

Army reforms.

Akbar's system of justice, judicial administration was presided over by a lord justice (*Mír-i-adl*) at the capital, aided by *Kázís* or law-officers in the principal towns. The police in the cities were under a superintendent or *kotwál*, who was also a magistrate. In country districts where police existed at all, they were left to the management of the landholders or revenue officers. But throughout rural India, no regular force can be said to have existed for the protection of person and property until and police. after the establishment of British rule. The Hindu village had its hereditary watchman, who in many parts of the country was taken from the predatory castes, and as often leagued with the robbers as opposed them. The landholders and revenue-officers had each their own set of myrmidons, who plundered the peasantry in their names.

Akbar's revenue system. Akbar's revenue system was based on the ancient Hindu customs, and survives to this day. He first executed a survey to measure the land. His officers then found out the produce of each acre of land, and settled the Government share, amounting to one-third of the gross produce. Finally, they fixed the rates at which this share of the crop might be commuted into a money payment. These processes, known as the land settlement, were at first repeated every year. But to save the peasant from the extortions and vexations incident to an annual inquiry, Akbar's land settlement was afterwards made for ten years. His officers strictly enforced the payment of a third of the whole produce, and Akbar's land revenue from Northern India exceeded what the British take at the present day. From his fifteen Provinces, including Akbar's land revenue. Kábul beyond the Afghán frontier, and Khándesh in Southern India, he demanded 14 millions sterling per annum; or excluding Kábul, Khándesh, and Sind, $12\frac{1}{3}$ millions. The British land tax from a much larger area of Northern India was only 12 millions in 1879.[1] Allowing for the difference in area and in the purchasing power of silver, Akbar's tax was about three times the amount which the British take. His total revenue. Two later returns show the land revenue of Akbar at $16\frac{1}{2}$ and $17\frac{1}{2}$ millions sterling. The Provinces had also to support a local militia (*búmí*) in contradistinction to the regular royal army, at a cost of at least 10 millions sterling. Excluding both Kábul and Khándesh, Akbar's demand from the soil of Northern India exceeded 22 millions sterling per annum, under

[1] Namely, Bengal, £3,767,082; Assam, £378,618; North-Western Provinces and Oudh, £5,942,197; and Punjab, £1,991,867; total, £12,079,764.—*Parliamentary Abstract*, p. 27 (1880).

the two items of land revenue and militia cess. There were also a number of miscellaneous taxes. Akbar's total revenue is estimated at 42 millions.[1]

Akbar's Hindu minister, Rájá Todar Mall, conducted the revenue settlement, and his name is still a household word among the husbandmen of Bengal. Abul Fazl, the man of letters and Finance Minister of Akbar, compiled a statistical survey of the Empire, together with many vivid pictures of his master's court and daily life, in the *Aín-í-Akbarí*, which may be read with interest at the present day.[2] Abul Fazl was killed in 1503 at the instigation of Prince Salím, the heir to the throne.

[1] PROVINCES OF THE DELHI EMPIRE UNDER AKBAR, CIRC. 1580.

	Land Tax in Rupees.
1. Allahábád,	5,310,667
2. Agra,	13,656,257
3. Oudh,	5,043,954
4. Ajmere,	7,153,449
5. Guzerat,	10,924,122
6. Behar,	5,547,985
7. Bengal,	14,961,482
8. Delhi,	15,040,388
9. Lahore,	13,986,460
10. Múltán,	9,600,764
11. Málwá,	6,017,376
12. Berar,	17,376,117
13. Khándesh,	7,563,237
14. Ahmednagar (only nominally a Province, yielded no revenue),	...
15. Tatta (Sind),	1,656,284
Total,	133,828,552
16. Kábul (omitting payments in kind),	8,071,024
Grand Total,	141,909,576

The land revenue was returned at 16½ millions sterling in 1594, and £17,450,000 at Akbar's death in 1605. The aggregate taxation of Akbar was 32 millions sterling; with 10 millions for militia cess (*búmí*); total, 42 millions sterling. See Thomas' *Revenue Resources of the Mughal Empire*, pp. 5-21 and p. 54 (Trübner, 1871). These and the following conversions are made at the nominal rate of 10 rupees to the pound sterling. But the actual rate was then about 8 or 9 rupees to the £. The real revenues of the Mughal Emperors represented, therefore, a considerably larger sum in sterling than the amounts stated in the text and footnotes. The purchasing power of silver, expressed in the staple food grains of India, was two or three times greater than now.

[2] The old translation is by Gladwin (1800); the best is by the late Mr. Blochmann, Principal of the Calcutta *Madrasah*, or Muhammadan college, whose early death was one of the greatest losses which Persian scholarship has sustained in this century.

It may be here convenient to exhibit the revenues of the Mughal Empire in India, during the century from its practical foundation by Akbar to its final expansion under Aurangzeb in 1697; and thence to its fall in 1761:—

REVENUES OF THE MUGHAL EMPERORS AT THIRTEEN VARIOUS PERIODS FROM 1593 TO 1761,[1] FROM A SMALLER AREA AND POPULATION THAN THOSE OF BRITISH INDIA.

	Mughal Emperors.		Authority.	Land Revenue.	Revenue from all Sources.
1	Akbar, A.D.	1593,	Nizám-ud-dín Ahmad: not for all India,	...	£32,000,000
			Allowance for Provincial Troops (*búmí*),	...	10,000,000
					nett £42,000,000
2	,,	1594,	Abdul Fazl MSS.: not for all India,	*nett* £16,574,388	...
3	,,	,,	Official Documents: not for all India,	*nett* 16,582,440	...
4	,,	1605,	Indian Authorities quoted by De Läet,	*nett* 17,450,000	...
5	Jahángír,	1609–11,	Captain Hawkins,	...	*nett* 50,000,000
6	,,	1628,	Abdul Hamíd Láhorí,	*nett* 17,500,000	...
7	Sháh Jahán,	1648–49,	,,	*nett* 22,000,000	...
8	Aurangzeb,	1655,	Official Documents,	*gross* 26,743,970 *nett* 24,056,114	...
9	,,	1670?	Later Official Documents,	*gross* 35,641,431 *nett* 34,505,890	...
10	,,	1695,	Gemelli Careri,	...	*nett* 80,000,000
11	,,	1697,	Manucci (Catrou),	*nett* 38,719,400	*nett* 77,438,800
12	,,	1707,	Ramusis,	*nett* 30,179,692	...
13	Sháh Alam,	1761,	Official Statement presented to Ahmad Sháh Abdáli on his entering Delhi,	*nett* 34,506,640	...

[1] The above Table is reproduced from Mr. Edward Thomas' *Revenue Resources of the Mughal Empire*, published in 1871. Mr. Thomas has kindly revised it for me, from materials collected since that date. I insert the words *nett* and *gross* by his direction.

SALIM, the favourite son of Akbar, succeeded his father in 1605, and ruled until 1627 under the title of JAHANGIR, or

Conqueror of the World. The chief events of his reign are summarized below.[1] His reign of twenty-two years was spent in reducing the rebellions of his sons, in exalting the influence of his wife, and in festive self-indulgence. In spite of long wars in the Deccan, he added little to his father's territories. India south of the Vindhyás still continued apart from the northern Empire of Delhi. Malik Ambar, the Abyssinian minister of Ahmednagar, maintained, in spite of reverses, the independence of that kingdom. At the end of Jahángír's reign, his rebel son, Prince Sháh Jahán, was a refugee in the Deccan, in alliance with Malik Ambar against the Mughal troops. The Rájputs also began to reassert their independence. In 1614, Prince Sháh Jahán on behalf of the Emperor defeated the Udáipur Rájá. But the conquest was only partial and for a time. Meanwhile, the Rájputs formed an important contingent of the imperial armies, and 5000 of their cavalry aided Sháh Jahán to put down a revolt in Kábul. The Afghán Province of Kandahár was wrested from Jahángír by the Persians in 1621. The land tax of the Mughal Empire

Jahángír, Emperor, 1605-27.

Rebellion of his son.

Revolt of the Rájputs.

[1] REIGN OF JAHANGIR, 1605-27:—

1605. Accession of Jahángír.

1606. Flight, rebellion, and imprisonment of his eldest son, Prince Khusrú.

1610. Malik Ambar recovers Ahmednagar from the Mughals, and reasserts independence of the Deccan dynasty, with its new capital at Aurangábád.

1611. Jahángír's marriage with Núr Jahán.

1612. Jahángír again defeated by Malik Ambar in an attempt to recover Ahmednagar.

1613-14. Defeat of the Udáipur Rájá by Jahángír's son Prince Sháh Jahán. Unsuccessful revolt in Kábul against Jahángír.

1615. Embassy of Sir T. Roe to the Court of Jahángír.

1616-17. Temporary reconquest of Ahmednagar by Jahángír's son Sháh Jahán.

1621. Renewed disturbances in the Deccan; ending in treaty with Sháh Jahán. Capture of Kandahár from Jahángír's troops by the Persians.

1623-25. Rebellion against Jahángír by his son Sháh Jahán, who, after defeating the Governor of Bengal at Rájmahál, seized that Province and Behar, but was himself overthrown by Mahábat Khán, his father's general, and sought refuge in the Deccan, where he unites with his old opponent Malik Ambar.

1626. The successful general Mahábat Khán seizes the person of the Emperor Jahángír. Intrigues of the Empress Núr Jahán.

1627. Jahángír recovers his liberty, and sends Mahábat Khán against Prince Sháh Jahán in the Deccan. Mahábat joins the rebel prince against the Emperor Jahángír.

1627. Death of Jahángír.

Materials for Jahángír's reign: Sir Henry Elliot's *Indian Historians*, vols. v. vi. and vii.; Elphinstone, pp. 550-603.

remained at $17\frac{1}{2}$ millions under Jahángír, but his total revenues were estimated at 50 millions sterling.[1]

The Empress Núr Jahán.

The principal figure in Jahángír's reign is his Empress, Núr Jahán,[2] the Light of the World. Born in great poverty, but of a noble Persian family, her beauty won the love of Jahángír while they were both in their first youth, during the reign of Akbar. The old Emperor tried to put her out of his son's way, by marrying her to a brave soldier, who obtained high employment in Bengal. Jahángír on his accession to the throne commanded her divorce. Her husband refused, and was killed. His wife, being brought into the imperial palace, lived for some time in chaste seclusion as his widow, but in the end emerged as Núr Jahán, the Light of the World. She surrounded herself with her relatives, and at first influenced Jahángír for his good. But the jealousy of the imperial princes and of the Mughal generals against her party led to intrigue and rebellion. In 1626, her successful general Mahábat Khán found himself compelled, in self-defence, to turn against her. He seized the Emperor, whom he kept, together with Núr Jahán, in captivity for six months. Jahángír died in the following year, 1627, in the midst of a rebellion against him by his son Sháh Jahán and his greatest general, Mahábat Khán.

Jahángír's personal character.

Jahángír's personal character is vividly portrayed by Sir Thomas Roe, the first British Ambassador to India (1615). Agra continued to be the central seat of the government, but the imperial army on the march formed in itself a splendid capital. Jahángír thought that Akbar had too openly severed himself from the Muhammadan faith. The new Emperor conformed more strictly to outward observances, but lacked the inward religious feeling of his father. While he forbade the use of wine to his subjects, he spent his own nights in drunken revelry. He talked religion over his cups until he reached a certain stage of intoxication, when he 'fell to weeping, and to various passions, which kept them to midnight.' In public he maintained a strict appearance of virtue, and never allowed any person whose breath smelled of wine to enter his presence. A courtier who had shared his midnight revels, and indiscreetly alluded to them next morning, was gravely examined as to who were the companions of his debauch, and one of them was bastinadoed so that he died. When sober, Jahángír tried to work wisely for his Empire. A chain hung down from the citadel

His drunken feasts.

[1] Mr. Edward Thomas' *Revenue Resources of the Mughal Empire*, pp. 21-26 and p. 54.

[2] Otherwise known as Núr Mahál, the Light of the Palace.

to the ground, and communicated with a cluster of golden bells in his own chamber, so that every suitor might apprise the Emperor of his demand for justice without the intervention of the courtiers. Many European adventurers repaired to his court, and Jahángír patronized alike their arts and their religion. In his earlier years he had accepted the eclectic faith of his father. It is said that on his accession he had even permitted the divine honours paid to Akbar to be continued to himself. His first wife was a Hindu princess; figures of Christ and the Virgin Mary adorned his rosary; and two of his nephews embraced Christianity with his full approval.[1]

Jahángír's justice.

His religion.

Shah Jahan hurried north from the Deccan in 1627, and proclaimed himself Emperor at Agra in January 1628.[2] He put down for ever the court faction of the Empress Núr Jahán, by confining her to private life upon a liberal allow-

Sháh Jahán, Emperor, 1628-58.

[1] Elphinstone's *Hist.*, p. 560 (ed. 1866), on the authority of Roe, Hawkins, Terry, Coryat.

[2] Materials for Sháh Jahán's reign: Sir Henry Elliot's *Indian Historians*, vols. vi. vii. and viii.; Elphinstone, pp. 574-603.

Reign of Shah Jahan, 1628-58:—

1627. Imprisonment of Núr Jahán on the death of Jahángír, by Asaf Khán on behalf of Sháh Jahán.

1628. Sháh Jahán returns from the Deccan and ascends the throne (January). He murders his brother and kinsmen.

1628-30. Afghán uprisings against Sháh Jahán in Northern India and in the Deccan.

1629-35. Sháh Jahán's wars in the Deccan with Ahmednagar and Bijápur; unsuccessful siege of Bijápur.

1634. Sháhji Bhonslá, grandfather of Sivají, the founder of the Marhattá power, attempts to restore the independent King of Ahmednagar, but fails, and in 1636 makes peace with the Emperor Sháh Jahán.

1636. Bijápur and Golconda agree to pay tribute to Sháh Jáhán. Final submission of Ahmednagar to the Mughal Empire.

1637. Reconquest of Kandahár by Sháh Jahán from the Persians.

1645. Invasion and temporary conquest of Bálkh by Sháh Jahán. Bálkh was abandoned by Sháh Jahán's army two years later.

1647-53. Kandahár again taken by the Persians, and three unsuccessful attempts were made by the Emperor's sons Aurangzeb and Dárá to recapture it. Kandahár finally lost to the Mughal Empire, 1653.

1655-56. Renewal of the war in the Deccan under Prince Aurangzeb. His attack on Haidarábád, and temporary submission of the Golconda king to the Mughal Empire.

1656. Renewed campaign of Sháh Jahán's armies against Bijápur.

1657-58. Dispute as to the succession between the Emperor's sons. Aurangzeb defeats Dárá; imprisons Murád, his other brother; deposes his father by confining him in his palace, and openly assumes the government. Sháh Jahán dies, practically a State prisoner in the fort of Agra, in 1666.

ance; and by murdering his brother Shahriyár, with all members of the house of Akbar who might prove rivals to the throne. But he was just to his people, blameless in his habits, a good financier, and as economical as a magnificent court, splendid public works, and distant military expeditions could permit. Under Sháh Jahán, the Mughal Empire was finally shorn of its Afghán Province of Kandahár; but it extended its conquests in the Deccan, and raised the magnificent buildings in Northern India which now form its most splendid memorials. After a temporary conquest of Balkh, and the actual reconquest of Kandahár by the Delhi troops in 1637, Sháh Jahán lost much of his Afghán territories, and the Province of Kandahár was severed from the Mughal Empire by the Persians in 1653. On the other hand, in the Deccan, the kingdom of Ahmednagar (to which Ellichpur had been united in 1572) was at last annexed to the Mughal Empire in 1636; Bídar fort was taken in 1657, while the two other of the five kingdoms,[1] namely, Bijápur and Golconda, were forced to pay tribute, although not finally reduced until the succeeding reign of Aurangzeb. But the Marhattás now appear on the scene, and commenced, unsuccessfully at Ahmednagar in 1637, that series of persistent Hindu attacks which were destined in the next century to break down the Mughal Empire. Aurangzeb and his brothers carried on the wars in Southern India and in Afghánistán for their father, Sháh Jahán.

Loses Kandahár finally, 1653.

Conquests in the Deccan.

Save for one or two expeditions, the Emperor lived a magnificent life in the north of India. At Agra he raised the exquisite mausoleum of the Táj Mahál, a dream in marble, designed by Titans and finished by jewellers.[2] His Pearl Mosque, the *Motí Masjíd*, within the Agra fort is perhaps the purest and loveliest house of prayer in the world. Not content with enriching his grandfather Akbar's capital with these and other architectural glories, he planned the re-transfer of the seat of Government to Delhi, and equipped that city with buildings of unrivalled magnificence. Its Great Mosque, or *Jamá Masjíd*, was commenced in the fourth year of his reign and completed in the tenth. The palace at Delhi, now the fort, covered a vast parallelogram, 1600 feet by 3200, with exquisite and sumptuous buildings in marble and fine stone. A deeply recessed portal leads into a vaulted hall, rising two

Sháh Jahán's buildings.

Táj Mahál.

Delhi Mosque.

[1] See *ante*, p. 336.

[2] Sháh Jahán's architectural works are admirably described by Dr. James Fergusson's *Hist. Architecture*, vol. iii. pp. 589-602 (ed. 1876). See also article AGRA, vol. i. pp. 56-58 of the *Imperial Gazetteer*.

storeys like the nave of a gigantic Gothic cathedral, 375 feet in length; 'the noblest entrance,' says the historian of architecture, 'to any existing palace.'[1] The *Diwán-i-Khás*, or Court of Private Audience, overlooks the river, a masterpiece of delicate inlaid work and poetic design. Sháh Jahán spent many years of his reign at Delhi, and prepared the city for its destiny as the most magnificent capital in the world under his successor Aurangzeb. But exquisite as are its public buildings, the manly vigour of Akbar's red-stone fort, with its bold sculptures and square Hindu construction, has given place to a certain effeminate beauty in the marble structures of Sháh Jahán.[2]

Sháh Jahán's palace at Delhi.

Akbar's dynasty lay under the curse of rebellious sons. As Jahángír had risen against his most loving father, Akbar; and as Sháh Jahán had mutinied against Jahángír; so Sháh Jahán in his turn suffered from the intrigues and rebellions of his family. In 1657, the old king fell ill; and Aurangzeb,

Rebellion of Prince Aurangzeb, 1657.

[1] Fergusson's *Hist. Architecture*, vol. iii. p. 592. See also article DELHI, vol. iii. pp. 83-84 of the *Imperial Gazetteer*.

[2] PROVINCES OF THE DELHI EMPIRE UNDER SHAH JAHAN, 1648-49:—

In India—	Land Tax in Rupees.
1. Delhi,	25,000,000
2. Agra,	22,500,000
3. Lahore,	22,500,000
4. Ajmere,	15,000,000
5. Daulatábád,	13,750,000
6. Berar,	13,750,000
7. Ahmedábád,	13,250,000
8. Bengal,	12,500,000
9. Allahábád,	10,000,000
10. Behar,	10,000,000
11. Málwá,	10,000,000
12. Khándesh,	10,000,000
13. Oudh,	7,500,000
14. Telingána,	7,500,000
15. Múltán,	7,000,000
16. Orissa,	5,000,000
17. Tatta (Sind),	2,000,000
18. Baglánah,	500,000
Land Revenue of India,	207,750,000
19. Kashmír,	3,750,000
20. Kábul,	4,000,000
21. Balkh,	2,000,000
22. Kandahár,	1,500,000
23. Badakhshan,	1,000,000
Total	Rs. 220,000,000

—Mr. Edward Thomas' *Revenue Resources of the Mughal Empire*, p. 28.

Sháh Jahán deposed, 1658.

after a treacherous conflict with his brethren, deposed his father, and proclaimed himself Emperor in 1658. The unhappy Emperor was kept in confinement for seven years, and died a State prisoner in the fort of Agra in 1666. Under Sháh Jahán, the Mughal Empire attained its highest union of strength with magnificence. His successor added to its extent, but at the same time sowed the seeds of its decay. Akbar's land revenue of 17½ millions had been raised, chiefly by new conquests, to 22 millions sterling under Sháh Jahán. But this sum included Kashmír, and five Provinces in Afghánistán, some of which were lost during his reign. The land revenue of the Mughal Empire within India was 20¾ millions. The magnificence of Sháh Jahán's court was the wonder of European travellers. His Peacock Throne, with its tail blazing in the shifting natural colours of rubies, sapphires, and emeralds, was valued by the jeweller Tavernier at 6½ millions sterling.

Sháh Jahán's revenues.

Aurangzeb's usurpation, 1658.

AURANGZEB proclaimed himself Emperor in 1658, in the room of his imprisoned father, under the title of Alamgír, the Conqueror of the Universe, and reigned until 1707. Under Aurangzeb, the Mughal Empire reached its widest limits.[1] But his long rule of forty-nine years merely presents on a more magnificent stage the old unhappy type of a Mughal reign. In its personal character, it commenced with his rebellion against his father; consolidated itself by the murder of his brethren; and darkened to a close amid the mutinies, intrigues, and gloomy jealousies of his own sons. Its public aspects consisted of a magnificent court in Northern India; conquests of the independent Muhammadan kings in the south; and wars against the Hindu powers, which, alike in Rájputána and the Deccan, were gathering strength for the overthrow of the Mughal Empire.

His reign, 1658-1707.

The chief events of the reign of Aurangzeb are summarized below.[2] The year after his accession, he defeated and put

[1] Materials for Aurangzeb's reign: Sir Henry Elliot's *Indian Historians*, vols. vii. and viii.; Elphinstone, pp. 598-673.

[2] REIGN OF AURANGZEB, 1658-1707:—

1658. Deposition of Sháh Jahán, and usurpation of Aurangzeb.

1659. Aurangzeb defeats his brothers Shujá and Dárá. Dárá, in his flight being betrayed by a chief with whom he sought refuge, is put to death by order of Aurangzeb.

1660. Continued struggle of Aurangzeb with his brother Shujá, who ultimately fled to Arakan, and there perished miserably.

1661. Aurangzeb executes his youngest brother, Murád, in prison.

1662. Unsuccessful invasion of Assam by Aurangzeb's general Mir

to death his eldest brother, the noble but impetuous Dárá (1659). After another twelve months' struggle, he drove out of India his second brother, the self-indulgent Shujá (1660), who perished miserably among the insolent savages of Arakan.[1] His remaining brother, the brave young Murád, was executed in prison the following year (1661). Aurangzeb, having thus killed off his rivals, set up as an orthodox sovereign of the strictest sect of Islám, while his invalid father, Sháh Jahán, lingered on in prison, mourning over his murdered sons, until his death in 1666.

He murders his brothers.

Aurangzeb continued, as Emperor, that persistent policy of the subjugation of Southern India which he had so brilliantly commenced as his father's lieutenant. Of the five Muham-

Subjugation of Southern India.

Jumlá. Disturbances in the Deccan. War between Bijápur and the Marhattás under Sivají. After various changes of fortune, Sivají, the founder of the Marhattá power, retains a considerable territory.

1662-1665. Sivají in rebellion against the Mughal Empire. In 1664, he assumed the title of Rájá, and asserted his independence; but in 1665, on a large army being sent against him, he made submission, and proceeded to Delhi, where he was placed under restraint, but soon afterwards escaped.

1666. Death of the deposed Emperor, Sháh Jahán. War in the Deccan, and defeat of the Mughals by the King of Bijápur.

1667. Sivají makes peace on favourable terms with Aurangzeb, and obtains an extension of territory. Sivají levies tribute from Bijápur and Golconda.

1670. Sivají ravages Khándesh and the Deccan, and there levies for the first time *chauth*, or a contribution of one-fourth of the revenue.

1672. Defeat of the Mughals by Sivají.

1677. Aurangzeb revives the *jaziah* or poll-tax on non-Muhammadans.

1679. Aurangzeb at war with the Rájputs. Rebellion of Prince Akbar, Aurangzeb's youngest son, who joins the Rájputs, but whose army deserts him. Prince Akbar is forced to fly to the Marhattás.

1681. Aurangzeb has to continue the war with the Rájputs.

1672-1680. Marhattá progress in the Deccan. Sivají crowns himself an independent sovereign at Ráigarh in 1674. His wars with Bijápur and the Mughals. Sivají dies in 1680, and is succeeded by his son, Sambhají.

1683. Aurangzeb invades the Deccan in person, at the head of his Grand Army.

1686-88. Aurangzeb conquers Bijápur and Golconda, and annexes them to the Empire (1688).

1689. Aurangzeb captures Sambhají, and barbarously puts him to death.

1692. Guerilla war with the Marhattás under independent leaders.

1698. Aurangzeb captures Jinjí from the Marhattás.

1699-1701. The Marhattá war. Capture of Sátára and Marhattá forts by the Mughals under Aurangzeb. Apparent ruin of Marhattás.

1702-05. Successes of the Marhattás.

1706. Aurangzeb retreats to Ahmednagar, and

1707. Miserably dies there (February).

[1] See article AKYAB, *Imperial Gazetteer*, vol. i. pp. 117, 118.

madan kingdoms of the Deccan, Bídar, and Ahmednagar-with-Ellichpur, had fallen to his arms before his accession.[1] The two others, Bijápur and Golconda, struggled longer, but Aurangzeb was determined at any cost to annex them to the Mughal Empire. During the first half of his reign, or exactly twenty-five years, he waged war in the south by means of his generals (1658-83). A new Hindu power had arisen in the Deccan, the Marhattás.[2] The task before Aurangzeb's armies was not only the old one of subduing the Muhammadan kingdoms of Bijápur and Golconda, but also of crushing the quick growth of the Marhattá confederacy. During a quarter of a century, his utmost efforts failed. Bijápur and Golconda were not conquered. In 1670, the Marhattá leader, Sivají, levied *chauth*, or one-fourth of the revenues, as tribute from the Mughal Provinces in Southern India; and in 1674, crowned himself an independent sovereign at Ráigarh. In 1680-81, Aurangzeb's rebel son, Prince Akbar, gave the prestige of his presence to the Marhattá army. Aurangzeb felt that he must either give up his magnificent life in the north for a soldier's lot in the Deccan, or he must relinquish his most cherished scheme of conquering Southern India. He accordingly prepared an expedition on an unrivalled scale of numbers and splendour, to be led by himself. In 1683, he arrived at the head of his Grand Army in the Deccan, and spent the next half of his reign, or twenty-four years, in the field. Golconda and Bijápur fell after another long struggle, and were finally annexed to the Mughal Empire in 1688.

Rise of the Marhattá power.

Sivají crowns himself.

Aurangzeb's southern campaign, 1683-1707.

His 20 years' Marhattá war, 1688-1707.

But the conquests of these last of the five Muhammadan kingdoms of the Deccan only left the arena bare for the operations of the Marhattás. Indeed, the attacks of the Marhattás on the two Muhammadan States had prepared the way for their annexation by Aurangzeb. The Emperor waged war during the remaining twenty years of his life (1688-1707) against the rising Hindu power of the Marhattás. Their first great leader, Sivají, had proclaimed himself king in 1674, and died in 1680. Aurangzeb captured his son and successor, Sambhají, in 1689, and cruelly put him to death; seized the Marhattá capital, with many of their forts, and seemed in the first year of the new century to have almost stamped out their existence (1701). But after a guerilla warfare, they again sprung up into a vast fighting nation. In 1705, they recovered their forts; while Aurangzeb had exhausted his

[1] See *ante*, p. 350. The five kingdoms are described at p. 336.

[2] For the rise and history of the Marhattás, see *post*, pp. 362-369.

health, his treasures and his troops, in the long and fruitless struggle. His soldiery murmured for arrears, and the Emperor, now old and peevish, told the malcontents that if they did not like his service they might quit it, while he disbanded some of his cavalry to ease his finances.

His 'Grand Army' worn out, 1705.

Meanwhile, the Marhattás were pressing hungrily on the imperial camp. The Grand Army of Aurangzeb had grown during a quarter of a century into an unwieldy capital. Its movements were slow, and incapable of concealment. If Aurangzeb sent out a rapid small expedition against the Marhattás, who plundered and insulted the outskirts of his camp, they cut it to pieces. If he moved out against them in force, they vanished. His own soldiery feasted with the enemy, who prayed with mock ejaculations for the health of the Emperor as their best friend. In 1706, the Grand Army was so disorganized that Aurangzeb opened negotiations with the Marhattás. He even thought of submitting the Mughal Provinces to their tribute or *chauth*. But their insolent exultation broke off the treaty, and Aurangzeb, in 1706, found shelter in Ahmednagar, where he died the following year. Dark suspicion of his sons' loyalty, and just fears lest they should subject him to the fate which he had inflicted on his own father, left him alone in his last days. On the approach of death, he gave utterance in broken sentences to his worldly counsels and adieus, mingled with terror and remorse, and closing in an agony of desperate resignation: 'Come what may, I have launched my vessel on the waves. Farewell! Farewell! Farewell!'

Aurangzeb hemmed in.

His despair, 1706.

Aurangzeb's death, 1707.

The conquest of Southern India was the one inflexible purpose of Aurangzeb's life, and has therefore been dealt with here in a continuous narrative. In the north of India, great events had also transpired. Mír Jumlá led the imperial troops as far as Assam, the extreme eastern Province of India (1662). But amid the pestilential swamps of the rainy season, the army melted away, its supplies were cut off, and its march was surrounded by swarms of natives who knew the country and defied the climate. Mír Jumlá succeeded in extricating the main body of his troops, but died of exhaustion and a broken heart before he reached Dacca.

His expedition to Assam, 1662.

In the west of India, Aurangzeb was not more fortunate. During his time the Síkhs were growing into a power, but it was not till the succeeding reigns that they commenced the series of operations which in the end wrested the Punjab from the Mughal Empire. Aurangzeb's bigotry arrayed against him the Hindu princes and peoples of Northern India.

Aurangzeb's bigoted policy.

Aurangzeb oppresses the Hindus.

He revived the *jaziah* or insulting poll-tax on non-Musalmáns (1677), drove the Hindus out of the administration, and oppressed the widow and children of his father's faithful Hindu general Jaswant Sinh. A local sect of Hindus was forced into rebellion in 1676; and in 1677, the Rájput States combined against him. The Emperor waged a protracted war against them; at one time devastating Rájputána, at another time saving himself and his army from extermination only by a stroke of genius and rare presence of mind. In 1680, his rebel son, Prince Akbar, joined the Rájputs with his division of the Mughal army. From that year, the permanent alienation of the Rájputs from the Mughal Empire dates; and the Hindu chivalry, which had been a source of strength to Akbar the Great, became an element of ruin to Aurangzeb and his successors. The Emperor sacked and slaughtered throughout the Rájput States of Jáipur, Jodhpur, and Udáipur. The Rájputs retaliated by ravaging the Muhammadan Provinces of Málwá, defacing the mosques, insulting the priests of Islám, the *mullás*, and burning the Kurán. In 1681, the Emperor patched up a peace in order to allow him to lead the Grand Army into the Deccan, from which he was destined never to return.

The Ráj-puts revolt

and cannot be subdued.

Aurangzeb's revenues.

All Northern India, except Assam, and the greater part of Southern India, paid revenue to Aurangzeb. His Indian Provinces covered nearly as large an area as the British Empire at the present day, although their dependence on the central Government was less direct. From these Provinces his net land revenue demand is returned at 30 to 38 millions sterling; a sum which represented at least three times the purchasing power of the land revenue of British India at the present day. But it is doubtful whether the enormous demand of 38 millions was fully realized during any series of years, even at the height of Aurangzeb's power, before he left Delhi for his long southern wars. It was estimated at only 30 millions in the last year of his reign, after his absence of a quarter of a century in the Deccan. Fiscal oppressions led to evasions and revolts, while some or other of the Provinces were always in open war against the Emperor. The first table on the next page exhibits the Mughal Empire in its final development, in 1697, just before it began to break up. The standard return of Aurangzeb's land revenue was *net* £34,505,890; and this remained the nominal demand in the accounts of the central exchequer during the next half-century, notwithstanding that the Empire had fallen to pieces. When the

The land revenue, 30 to 38 millions.

Afghán invader, Ahmad Sháh Duráni, entered Delhi in 1761, the treasury officers presented him with a statement showing the land revenue of the Empire at £34,506,640. The highest land revenue of Aurangzeb, after his annexations in Southern India, and before his final reverses, was 38½ millions sterling; of which close on 38 millions were from Indian Provinces.[1] The total revenue of Aurangzeb was estimated in 1695 at 80 millions, and in 1697 at 77½ millions sterling.[2] The gross Total revenue, 80 millions, 1695.

[1] PROVINCES OF THE DELHI EMPIRE UNDER AURANGZEB.

LAND REVENUE OF AURANGZEB IN 1697 (according to Manucci).

	Rupees.
1. Delhi,	12,550,000
2. Agra,	22,203,550
3. Lahore,	23,305,000
4. Ajmere,	21,900,002
5. Guzerat,	23,395,000
6. Málwá,	9,906,250
7. Behar,	12,150,000
8. Múltán,	5,025,000
9. Tatta (Sind),	6,002,000
10. Bakar,	2,400,000
11. Orissa,	5,707,500
12. Allahábád,	7,738,000
13. Deccan,	16,204,750
14. Berar,	15,807,500
15. Khándesh,	11,105,000
16. Baglána,	6,885,000
17. Nande (Nandair),	7,200,000
18. Bengal,	40,000,000
19. Ujain,	20,000,000
20. Rájmahál,	10,050,000
21. Bijápur,	50,000,000
22. Golconda,	50,000,000
Total,	379,534,552
23. Kashmír,	3,505,000
24. Kábul,	3,207,250
Grand Total,	386,246,802 or £38,624,680

LAND REVENUE OF AURANGZEB IN 1707 (according to Ramusio).

	Rupees.
1. Delhi,	30,548,753
2. Agra,	28,669,003
3. Ajmere,	16,308,634
4. Allahábád,	11,413,581
5. Punjab,	20,653,302
6. Oudh,	8,058,195
7. Múltán,	5,361,073
8. Guzerat,	15,196,228
9. Behar,	10,179,025
10. Sind,	2,295,420
11. Daulatábád,	25,873,627
12. Málwá,	10,097,541
13. Berar,	15,350,625
14. Khándesh,	11,215,750
15. Bídar,	9,324,359
16. Bengal,	13,115,906
17. Orissa,	3,570,500
18. Haidarábád,	27,834,000
19. Bijápur,	26,957,625
Total,	292,023,147
20. Kashmír,	5,747,734
21. Kábul,	4,025,983
Grand Total,	301,796,864 or £30,179,686

The above lists are taken from Mr. Edward Thomas' *Revenue Resources of the Mughal Empire*, pp. 46 and 50. The whole subject is admirably discussed in the chapter entitled 'Aurangzeb's Revenues,' pp. 33 *et seq.* The four returns of the land revenue for his reign are, *net*, 24 millions in 1655; 34½ millions in later official documents; 38¾ millions in 1697; 30 millions in 1707.

[2] Mr. Edward Thomas' *Revenue Resources of the Mughal Empire*, p. 54, etc. (1871). See *ante*, p. 346.

taxation levied from British India, deducting the opium excise, which is paid by the Chinese consumer, averaged 35⅓ millions sterling during the ten years ending 1879. The table on page 346, showing the growth of the revenues of the Mughal Empire from Akbar to Aurangzeb, may be contrasted with the taxation of British India, as given at p. 457.

Character of Aurangzeb.

Aurangzeb tried to live the life of a model Muhammadan Emperor. Magnificent in his public appearances, simple in his private habits, diligent in business, exact in his religious observances, an elegant letter-writer, and ever ready with choice passages alike from the poets and the Kurán, his life would have been a blameless one, if he had had no father to depose, no brethren to murder, and no Hindu subjects to oppress. But his bigotry made an enemy of every one who did not share his own faith; and the slaughter of his kindred compelled him to entrust his whole government to strangers. The Hindus never forgave him, and the Síkhs, the Rájputs, and the Marhattás, immediately after his reign, began to close in upon the Empire. His Muhammadan generals and viceroys, as a rule, served him well during his vigorous life. But at his death, they usurped his children's inheritance. The succeeding Emperors were puppets in the hands of the too powerful soldiers or statesmen who raised them to the throne, controlled them while on it, and killed them when it suited their purposes to do so. The subsequent history of the Empire is a mere record of ruin. The chief events in its decline and fall are summarized below.[1]

Decline of the Mughal Empire.

For a time, Mughal Emperors still ruled India from Delhi.

[1] THE DECLINE AND FALL OF THE MUGHAL EMPIRE,

From death of Aurangzeb to that of Muhammad Bahádur Sháh, 1707-1862.

1707. Succession contest between Muázzim and Alam, two sons of Aurangzeb; victory of the former, and his accession under the title of Bahádur Sháh; controlled by the General Zul-fíkar Khán. Revolt of Prince Kambaksh; his defeat and death.

1710. Expedition against the Síkhs.

1712. Death of Bahádur Sháh, and accession of his eldest son, Jahándar Sháh, after a struggle for the succession; an incapable monarch, who only ruled through his *wazír*, Zul-fíkar Khán. Revolt of his nephew, Farrukhsiyyar; defeat of the Imperial army, and execution of the Emperor and his *wazír*.

1713. Accession of Farrukhsiyyar, under the auspices and control of Husáin Alí, Governor of Behar, and Abdullá, Governor of Allahábád.

1716. Invasion by the Síkhs; their defeat, and cruel persecution.

1719. Deposition and murder of Farrukhsiyyar by the Sayyid chiefs Husáin Alí and Abdullá. They nominate in succession three boy

But of the six successors of Aurangzeb, two were under the control of an unscrupulous general, Zul-fikár Khán,[1] while the four others were the creatures of a couple of Sayyid adventurers

The six 'Puppet' kings.

Emperors, the first two of whom died within a few months after their accession. The third, Muhammad Sháh, commenced his reign in September 1719.

1720. Murder of Husáin Alí, and overthrow of the Sayyid 'king-makers.'

1720-48. The Governor of the Deccan, or Nizám-ul-mulk, establishes his independence, and severs the Haidarábád Provinces from the Mughal Empire.

1732-43. The Governor of Oudh, who was also *Wazír* of the Empire, becomes practically independent of Delhi.

1735-51. General decline of the Empire; revolts within, and invasion of Nádír Sháh from Persia (1739). The Marhattás obtain Málwá (1743), followed by the cession of Southern Orissa and tribute from Bengal (1751). First invasion of India by Ahmad Sháh Duráni, who had obtained the throne of Kandahár (1747); his defeat in Sirhind (1748).

1748. Death of Muhammad Sháh.

1748-50. Accession of Ahmad Sháh, his son; disturbances by the Rohillá Afgháns in Oudh, and defeat of the Imperial troops.

1751. The Rohillá insurrection crushed with the aid of the Marhattás.

1751-52. Second invasion of India by Ahmad Sháh Durání, and cession of the Punjab to him.

1754. Deposition of the Emperor, and accession of Alamgír II.

1756. Third invasion of India by Ahmad Sháh Durání, and sack of Delhi.

1759. Fourth invasion of India by Ahmad Sháh Durání, and murder of the Emperor Alamgír II. by his *wazír*, Ghází-ud-dín. The Marhattá conquests in Northern India. Their organization for the conquest of Hindustán, and their capture of Delhi.

1761-1805. The third battle of Pánipat; between the Afgháns under Ahmad Sháh, and the Marhattás; the defeat of the latter. From this time the Mughal Empire ceased to exist, except in name. The nominal Emperor on the death of Alamgír II. was Sháh Alam II., an exile, who resided till 1771 in Allahábád, a pensioner of the British. In the latter year, he threw in his fortunes with the Marhattás, who restored him to a fragment of his hereditary dominions. The Emperor was blinded and imprisoned by rebels. He was afterwards rescued by the Marhattás, but was virtually a prisoner in their hands till 1803, when the Marhattá power was overthrown by Lord Lake. Sháh Alam died in 1806, and was succeeded by his son,

1806-1837. Akbar II., who succeeded only to the nominal dignity, and lived till 1837; when he was followed by

1837-1862. Muhammad Bahádur Sháh, the seventeenth Mughal Emperor, and last of the race of Timúr. For his complicity in the Mutiny of 1857, he was deposed and banished for life to Rangoon, where he died, a British State prisoner, in 1862. Two of his sons and grandson were shot by Hodson in 1857, to prevent a rescue, and for their participation in the murder of English women and children at Delhi.

[1] Sir Henry Elliot's *Indian Historians*, vol. vii. pp. 348-558 (Trübner, 1877).

who well earned their title of the 'king-makers.' From the year 1720, the breaking up of the Empire took a more open form. The Nizám ul Mulkh, or Governor of the Deccan,[1] established his independence, and severed the largest part of Southern India from the Delhi rule (1720-48). The Governor of Oudh,[2] originally a Persian merchant, who had risen to the post of Wazír or Prime Minister of the Empire, practically established his own dynasty in the Provinces which had been committed to his care (1732-43).

Independence of the Deccan, 1720-48; of Oudh, 1732-43.

Hindu risings.

Oppression of the Síkhs, 1710-16.

The Hindu subjects of the Empire were at the same time establishing their independence. The Síkh sect in the Punjab were driven by oppression into revolt, and mercilessly crushed (1710-16). The indelible memory of the cruelties then inflicted by the Mughal troops nerved the Síkh nation with that hatred to Delhi which served the British cause so well in 1857. Their leader, Banda, was carried about in an iron cage, tricked out in the mockery of imperial robes, with scarlet turban and cloth of gold. His son's heart was torn out before his eyes, and thrown in his face. He himself was then pulled to pieces with red-hot pincers, and the Síkhs were exterminated like mad dogs (1716). The Hindu princes of Rájputána were more fortunate. Ajít Sinh of Jodhpur asserted his independence, and Rájputána practically severed its connection with the Mughal Empire in 1715. The Marhattás having enforced their claim to black-mail (*chauth*) throughout Southern India, burst through the Vindhyás upon the north, obtained the cession of Málwá (1743) and Orissa (1751), with an Imperial grant for tribute from Bengal (1751).

Rájput independence. 1715.

The Marhattá *chauth*, 1751.

Invasions from the north-west, 1739-61.

Nádir Sháh, 1739.

While the Muhammadan governors and Hindu subjects of the Empire were thus asserting their independence, two new sets of external enemies appeared. The first of these consisted of invasions from the north-west. In 1739, Nádir Sháh, the Persian, swept down with his destroying host, and, after a massacre in the streets of Delhi and a fifty-eight days' sack, went off with a booty estimated at 32 millions sterling.[3] Six times the Afgháns burst through the passes under Ahmad Sháh Duráni, plundering, slaughtering, and then scornfully retiring to their homes with the plunder of the Empire. In 1738, Kábul, the last Afghán Province of the Mughals, was severed from Delhi; and in 1752, Ahmad Sháh obtained the cession of the Punjab.

Ahmad Sháh, 1748-61.

[1] Chin Kulich Khán or Azaf Sháh, a Túrkomán Sunni.

[2] Saádat Alí Khán, a Persian Shiá.

[3] Mill's *History of British India*, vol. ii. p. 456 (Wilson's edition, 1840).

The cruelties inflicted upon Delhi and Northern India during these six invasions form an appalling tale of bloodshed and wanton cruelty. The miserable capital opened her gates, and was fain to receive the Afgháns as guests. Yet on one occasion it suffered for six weeks every enormity which a barbarian army can inflict upon a prostrate foe. Meanwhile the Afghán cavalry were scouring the country, slaying, burning, and mutilating in the meanest hamlet as in the greatest town. They took especial delight in sacking the holy places of the Hindus, and murdering the defenceless votaries at the shrines. Afghán invasions, 1747-61.

A horde of 25,000 Afghán horsemen swooped down upon the sacred city of Muttra during a festival, while it was thronged with peaceful Hindu pilgrims engaged in their devotions. 'They burned the houses,' says the Tyrolese Jesuit Tieffenthaler, who was in India at that time, 'together with their inmates, slaughtering others with the sword and the lance; hauling off into captivity maidens and youths, men and women. In the temples they slaughtered cows,' the sacred animal of the Hindus, 'and smeared the images and pavement with the blood.' The border-land between Afghánistán and India lay silent and waste; indeed, districts far within the frontier, which had once been densely inhabited, and which are now again thickly peopled, were swept bare of inhabitants. Thus Gujránwála, the seat of the ancient capital of the Punjab in Buddhist times, was utterly depopulated. Its present inhabitants are immigrants of comparatively recent date. The District, which was stripped of its inhabitants in the last century, has now a new population of over half a million souls. Misery of the Provinces. Afghán atrocities, 1747-61.

The other set of invaders came from the sea. In the wars between the French and English in Southern India, the last vestiges of the Delhi authority in the Madras Presidency disappeared (1748-61). Bengal, Behar, and Orissa were handed over to the English by an imperial grant in 1765. We technically held these fertile Provinces as the nominee of the Emperor; but the battle of Pánipat had already reduced the throne of Delhi to a shadow. This battle was fought in 1761, between the Afghán invader Ahmad Sháh and the Marhattá powers, on the memorable plain on which Bábar and Akbar had twice won the sovereignty of India. That sovereignty was now, in 1761, lost for ever to their degenerate descendants. The Afgháns defeated the Marhattás; and during the anarchy which followed, the British patiently built up a new power out of the wreck of the Mughal Empire. Mughal pensioners and puppets reigned at Delhi over a numerous seraglio, under such lofty Invaders from the sea. Fall of the empire. Battle of Pánipat, 1761.

Last of the Mughals, 1862.

titles as Akbar II. or Alamgír (Aurangzeb) II. But their power was confined to the palace,[1] while Marhattás, Síkhs, and Englishmen struggled for the sovereignty of India. The last nominal Emperor emerged for a moment as a rebel during 1857, and died a State prisoner in Rangoon, the capital of British Burma, in 1862.

British India won, not from the Mughals, but from the Hindus.

The British won India, not from the Mughals, but from the Hindus. Before we appeared as conquerors, the Mughal Empire had broken up. Our final and most perilous wars were neither with the Delhi King, nor with his revolted governors, but with the two Hindu confederacies, the Marhattás and the Síkhs. Muhammadan princes fought with us in Bengal, the Karnatic, and Mysore. But the longest opposition to the British conquest of India came from the Hindus. Our last Marhattá war dates as late as 1818, and the Síkh Confederation was overcome only in 1848. The Síkh campaigns belong to a subsequent section of this historical sketch, and a very brief notice of the Marhattás must here suffice.

Rise of the Marhattás.

Sháhjí Bhonslá, 1634.

About the year 1634, a Marhattá soldier of fortune, SHAHJI BHONSLA by name, began to play a conspicuous part in Southern India.[2] He fought on the side of the two independent Muhammadan States, Ahmednagar and Bijápur, against the Mughals; and left a band of followers, together with a military fief, to his son Sivají, born in 1627.[3] Sivají formed a national party out of the Hindu tribes of Southern India, as opposed alike to the imperial armies from the north, and to the independent Muhammadan kingdoms of the

Sivají.

[1] See article DELHI, *Imperial Gazetteer*, vol. iii. p. 78.

[2] The original authorities for the Marhattá history are—(1) James Grant Duff's *History of the Mahrattas*, 3 vols. (Bombay reprint, 1863); (2) Edward Scott Waring's *History of the Mahrattas* (quarto, 1810); (3) Major William Thorne's *Memoir of the War in India conducted by General Lord Lake* (quarto, 1818); (4) Sidney J. Owen's *Selections from the Despatches of the Marquis of Wellesley* (1877); (5) his *Selections from the Indian Despatches of the Duke of Wellington* (1880); and (6) Henry T. Prinsep's *Narrative of Political and Military Transactions of British India under the Marquis of Hastings* (quarto, 1820). The very brief notice of the Marhattás which my space permits of precludes anything like an exhaustive use of these storehouses. But it should be mentioned that the later history of the Marhattás (since 1819) has yet to be written. The leading incidents of that history are described in separate articles in the *Imperial Gazetteer*. To save space I confine myself, as far as practicable, to referring in footnotes to those articles. Ample materials will be found in the Gazetteers of the Bombay Districts and Central Provinces.

[3] Grant Duff's *History of the Mahrattas*, vol. i. p. 90 (ed. 1863).

Deccan. There were thus, from 1650 onwards, three powers in the Deccan: first, the ever-invading troops of the Delhi Empire; second, the forces of the two remaining independent Muhammadan States of Southern India, namely, Ahmednagar and Bijápur; third, the military organization of the local Hindu tribes, which ultimately grew into the Marhattá confederacy. Three parties in the Deccan, 1650.

During the eighty years' war of Sháh Jahán and Aurangzeb, with a view to the conquest of Southern India (1627-1707), the third or Hindu party fought from time to time on both sides, and obtained a constantly increasing importance. The Mughal armies from the north, and the independent Muhammadam kingdoms of the south, gradually exterminated each other. Being foreigners, they had to recruit their exhausted forces from outside. The Hindu confederacy drew its inexhaustible native levies from the wide tract known as Maháráshtra, stretching from the Berars in Central India to near the south of the Bombay Presidency. The Marhattás were therefore courted alike by the Imperial generals and by the independent Muhammadan sovereigns of the Deccan. With true Hindu statecraft, their leader, Sivají, from time to time aided the independent Musalmán kingdoms of the Deccan against the Mughal avalanche from the north. Those kingdoms, with the help of the Marhattás, long proved a match for the imperial troops. But no sooner were the Delhi armies driven back, than the Marhattás proceeded to despoil the independent Musalmán kingdoms. On the other hand, the Delhi generals, when allied with the Marhattás, could completely overpower the independent Muhammadan States. Strength of the Hindu or third party. Courted by the other two.

SIVAJI saw the strength of his position, and, by a course of treachery, assassination, and hard fighting, won for the Marhattás the practical supremacy in Southern India.[1] As a basis for his operations, he perched himself safe in a number of impregnable hill forts in the Bombay Presidency. His troops consisted of Hindu spearmen, mounted on hardy ponies. They were the peasant proprietors of Southern India, and could be dispersed or called together on a moment's notice, at the proper seasons of the agricultural year. Sivají had therefore the command of an unlimited body of troops, without the expense of a standing army. With these he swooped down upon his enemies, exacted tribute, or forced them to come to terms. He then paid off his soldiery by a part of the plunder, and retreated with the lion's share to Sivají, born 1627, died 1680. His hill forts. His army of horsemen. His tactics.

[1] The career of Sivají is traced in Grant Duff's *History of the Mahrattas*, vol. i. pp. 90-220.

his hill forts. In 1659, he lured the Bijápur general into an ambush, stabbed him at a friendly conference, and exterminated his army. In 1662, Sivají raided as far as the extreme north of the Bombay Presidency, and sacked the Imperial city of Surat. In 1664, he assumed the title of king (Rájá), with the royal prerogative of coining money in his own name.[1]

Coins money.

The year 1665 found Sivají helping the Mughal armies against the independent Musalmán State of Bijápur. In 1666, he was induced to visit Delhi. Being coldly received by the Emperor Aurangzeb, and placed under restraint, he escaped to the south, and raised the standard of revolt.[2] In 1674, Sivají enthroned himself with great pomp at Ráigarh, weighing himself in a balance against gold, and distributing the precious counterpoise among his Bráhmans.[3] After sending forth his hosts as far as the Karnatic in 1676, he died in 1680.

Visits Delhi, 1666.

Enthrones himself, 1674.

Died 1680.

Aurangzeb's mistaken policy, 1688-1707.

The Emperor Aurangzeb would have done wisely to have left the independent Musalmán Kings of the Deccan alone, until he had crushed the rising Marhattá power. Indeed, a great statesman would have buried the old quarrel between the Muhammadans of the north and south, and united the whole forces of Islám against the Hindu confederacy which was rapidly organizing itself in the Deccan. But the fixed resolve of Aurangzeb's life was to annex to Delhi the Muhammadan kingdoms of Southern India. By the time he had carried out this scheme, he had wasted his armies, and left the Mughal Empire ready to break into pieces at the first touch of the Marhattás.

Sambhají 1680-89.

SAMBHAJI succeeded his father, Sivají, in 1680, and reigned till 1689.[4] His life was entirely spent in wars with the Portuguese and Mughals. In 1689, Aurangzeb captured him. The Emperor blinded his eyes with a red-hot iron, cut out the tongue which had blasphemed the Prophet, and struck off his head.

Sahu, 1707.

His son, SAHU, then six years of age, was also captured and kept a prisoner till the death of Aurangzeb. In 1707 he was restored, on acknowledging allegiance to Delhi. But his long captivity among the Mughals left him only half a Marhattá.[5]

[1] Grant Duff's *History of the Mahrattas*, vol. i. p. 146.

[2] *Idem*, vol. i. chap. v. *ad finem*. [3] *Idem*, vol. i. pp. 191-193.

[4] For the career of Sambhají, see Grant Duff's *History of the Mahrattas*, vol. i. pp. 220-261.

[5] The career of Sahu is traced in Grant Duff's *History of the Mahrattas*, vol. i. pp. 297-306.

He wasted his life in his seraglio, and resigned the rule of his territories to his Bráhman minister Bálají Vishwanáth, with the title of Peshwá.[1] This office became hereditary, and the power of the Peshwá superseded that of the Marhattá kings. The family of Sivají only retained the little principalities of Sátára and Kolhapur.[2] Sátára lapsed, for want of a direct heir, to the British in 1849. Kolhapur has survived through their clemency, and is now ruled, under their control, by the last of Sivají's line.

Rise of the Peshwás.

Sátára and Kolhapur; the last of Sivají's line.

Meanwhile the PESHWAS were building up at Poona the great Marhattá confederacy. In 1718, Bálají, the first Peshwá, marched an army to Delhi in support of the Sayyid 'king-makers.'[3] In 1720,[4] he extorted an Imperial grant of the *chauth* or 'one-fourth' of the revenues of the Deccan. The Marhattás were also confirmed in the sovereignty of the countries round Poona and Sátára. The second Peshwá, Bájí Ráo (1721-40), converted the tribute of the Deccan granted to his father into a practical sovereignty. In fifteen years he wrested the Province of Málwá from the Empire (1736), together with the country on the north-west of the Vindhyás, from the Narbada to the Chambal.[5] In 1739,[6] he captured Bassein from the Portuguese.

Progress of the Peshwás, 1718.

Second Peshwá conquers the Deccan, 1720-40.

The third Peshwá, Bálají Bájí Ráo, succeeded in 1740, and carried the Marhattá terror into the heart of the Mughal Empire.[7] The Deccan became merely a starting-point for a vast series of their expeditions to the north and the east. Within the Deccan itself he augmented his sovereignty, at the expense of the Nizám, after two wars. The great centres of the Marhattá power were now fixed at Poona in Bombay and Nágpur in the Berars. In 1741-42, a general of the Berar branch of the confederacy known as the Bhonslás, swept down upon Bengal; but, after plundering to the suburbs of the Muhammadan capital Murshidábád, he was driven back through Orissa by the Viceroy Alí Vardí Khán. The 'Marhattá Ditch,' or semicircular moat around part of Calcutta, records to this day the panic which then spread throughout Bengal. Next year, 1743, the head of the Berar branch, Raghojí Bhonslá, himself

Third Peshwá, 1740-61.

Conquests in the Deccan.

Expeditions beyond it: To Bengal, 1742-51;

[1] For Bálají's career, see Grant Duff's *Hist. of the Mahrattas*, i. 307-339.

[2] See articles KOLHAPUR and SATARA, *Imperial Gazetteer*, vols. v. pp. 430-433, and viii. pp. 206-212.

[3] See *ante*, p. 359.

[4] *History of the Mahrattas*, vol. i. pp. 324, 325.

[5] *History of the Mahrattas*, pp. 393-395.

[6] For Bájí Ráo's career, see *History of the Mahrattas*, vol. i. pp. 344-410.

[7] His career is sketched in *History of the Mahrattas*, vol. ii. pp. 1-115.

invaded Bengal in force. From this date, in spite of quarrels between the Poona and Berar Marhattás over the spoil, the fertile Provinces of the Lower Ganges became a plundering ground of the Bhonslás. In 1751, they obtained a formal grant from the Viceroy Alí Vardí of the *chauth* or 'quarter-revenue' of Bengal, together with the cession of southern Orissa. In Northern India, the Poona Marhattás raided as far as the Punjab, and drew down upon them the wrath of Ahmad Sháh, the Afghán, who had already wrested that Province from Delhi. At the battle of Pánipat, the Marhattás were overthrown, by the combined Muhammadan forces of the Afgháns and of the northern Provinces still nominally remaining to the Mughal Empire (1761).

To the Punjab, 1760.

Pánipat, 1761.

Fourth Peshwá, 1761-72.

The fourth Peshwá, Madhu Ráo, succeeded to the Marhattá sovereignty in this moment of ruin.[1] The Hindu confederacy seemed doomed to destruction, alike by internal treachery and by the superior force of the Afghán arms. As early as 1742, the Poona and Berar branches had taken the field against each other, in their quarrels over the plunder of Bengal. Before 1761, two other branches, under Holkar and Sindhia, held independent sway in the old Mughal Province of Málwá and the neighbouring tracts, now divided between the States of Indore and Gwalior. At Pánipat, Holkar, the head of the Indore branch, deserted the Hindu line the moment he saw the tide turn, and his treachery rendered the Marhattá rout complete. The fourth Peshwá was little more than the nominal centre of the five great Marhattá powers, with their respective headquarters at Poona, the seat of the Peshwás; at Nágpur, the capital of the Bhonslás, in Berar; at Gwalior, the residence of Sindhia; at Indore, the capital of Holkar; and at Baroda, the seat of the rising power of the Gáekwárs. Madhu Ráo, the fourth Peshwá, just managed to hold his own against the Muhammadan princes of Haidarábád and Mysore, and against the Bhonslá branch of the Marhattás in Berar. His younger brother, Náráyan Ráo, succeeded him as fifth Peshwá in 1772, but was quickly assassinated.[2]

The five Marhattá branches.

Fifth Peshwá, 1772.

Decline of the Peshwás, 1772-1818.

From this time the Peshwá's power at Poona begins to recede, as that of his nominal masters, the lineal descendants of Sivají, had faded out of sight in Sátára and Kolhapur. The Peshwás came of a high Bráhman lineage, while the actual fighting force of the Marhattás consisted of low-caste Hindus. It thus happened that each Marhattá general who

[1] For his career, see Grant Duff's *Hist. of the Mahrattas*, ii. 115-172.
[2] *History of the Mahrattas*, vol. ii. pp. 175-178.

rose to independent territorial sway, was inferior in caste, although possessed of more real power than the Peshwá, the titular head of the confederacy. Of the two great northern houses, Holkar was descended from a shepherd,[1] and Sindhia from a slipper-bearer.[2] These potentates lay quiet for a time after their crushing disaster at Pánipat. But within ten years of that fatal field, they had finally established themselves throughout Málwá, and invaded the Rájput, Ját, and Rohillá Provinces, from the Punjab on the west to Oudh on the east (1761-71). In 1765, the titular Emperor, Sháh Alam, had sunk into a British pensioner after his defeat at Baxar. In 1771, he made overtures to the Marhattás. Holkar and Sindhia nominally restored him to his throne at Delhi, but held him a virtual prisoner till 1803-04, when they were overthrown by our second Marhattá war.

Progress of the northern Marhattás. Sindhia and Holkar, 1761-1803.

The third of the northern Marhattá houses, namely, the Bhonslás of Berar and the Central Provinces, occupied themselves with raids to the east. Operating from their basis at Nágpur,[3] they had extorted, by 1751, the *chauth* or 'quarter revenue' of Bengal, together with the sovereignty of Southern Orissa. The accession of the British in Bengal (1756-65) put a stop to their raids in that Province. In 1803, a division of our army drove them out of Orissa. In 1717, their power was finally broken by our last Marhattá war. Their headquarter territories, now forming the Central Provinces,[4] were administered under the guidance of British Residents from 1817 to 1853. On the death of the last Raghojí Bhonslá, without issue, in 1853, the Nágpur or Central Province lapsed to the British.

The Bhonslás of Berar, 1751-1853.

The fourth of the northern Marhattá houses, namely, Baroda,[5] extended its power throughout Guzerat, on the north-western coast of Bombay, and the adjacent peninsula of Káthiáwár. The scattered but wealthy dominions known as the territories of the Gáekwár were thus formed. Since our last Marhattá war, in 1817, Baroda has been ruled by the Gáekwár, with the help of an English Resident and a British subsidiary force. In 1874, the reigning Gáekwár, having attempted to poison the Resident, was tried by a High Com-

The Gáekwárs of Baroda.

Baroda in 1874.

[1] See article INDORE, *Imperial Gazetteer*, vol. iv.

[2] See article GWALIOR, *Imperial Gazetteer*, vol. iii. p. 491.

[3] See article NAGPUR, *Imperial Gazetteer*, vol. vii. pp. 29-32.

[4] See article CENTRAL PROVINCES, *Imperial Gazetteer*, vol. ii. pp. 356-357.

[5] See article BARODA, *Imperial Gazetteer*, vol. i. pp. 451-454.

mission consisting of three European and three native members, found guilty, and deposed. But the British Government refrained from annexing the State, and raised a descendant of the founder of the family from obscure poverty to the State cushion.

While these four northern houses of the Marhattás were pursuing their separate careers, the Peshwá's power was being broken to pieces by family intrigues. The sixth Peshwá, Madhu Ráo Náráyan, was born after his father's death, and during his short life of twenty-one years the power remained in the hands of his minister, Náná Farnavis. Raghobá, the uncle of the late Peshwá, disputed the birth of the posthumous child, and claimed for himself the office of Peshwá. The infant's guardian, Náná Farnavis, having invoked the aid of the French, the British sided with Raghobá. These alliances brought on the first Marhattá war (1779-81), ending with the treaty of Salbái (1782). That treaty ceded the islands of Salsette and Elephanta with two others to the British, secured to Raghobá a handsome pension, and confirmed the child-Peshwá in his sovereignty. The latter, however, only reached manhood to commit suicide at the age of twenty-one.

Sixth Peshwá, 1774-95.

First Marhattá war, 1779-81.

His cousin, Bájí Ráo II., succeeded him in 1795 as the seventh and last Peshwá.[1] The northern Marhattá house of Holkar now took the lead among the Marhattás, and forced the Peshwá into the arms of the English. By the treaty of Bassein in 1802, the Peshwá agreed to receive and pay for a British force to maintain him in his dominions. The northern Marhattá houses combined to break down this treaty. The second Marhattá war followed (1803-04). General Wellesley crushed the forces of the Sindhia and Nágpur houses on the great fields of Assaye and Argaum in the south, while Lord Lake disposed of the Marhattá armies at Laswári and Delhi in the north.[2] In 1804, Holkar was completely defeated at Díg. These campaigns led to large cessions of territory to the British, the overthrow of the French influence in India, and the replacement of the titular Delhi Emperor under the protection of the English. In 1817-18, the Peshwá, Holkar, and the Bhonslá Marhattás at Nágpur took up arms, each on his own account, against the British, and were defeated in detail. That war finally broke the Marhattá power. The Peshwá, Bájí Ráo,

Seventh and last Peshwá, 1795-1818.

Second Marhattá war, 1803-04.

Last Marhattá war, 1817-18.

[1] For his career, see Grant Duff's *History of the Mahrattas*, iii. 102 *et seq*.

[2] For further details, see *post*, pp. 403-4. Also articles ASSAYE, ARGAUM, LASWARI, DELHI, and DIG, in their respective vols. of the *Imperial Gazetteer*. See also Grant Duff's *History of the Mahrattas*, vol. iii. *passim*.

surrendered to the British, and his territories were annexed to our Bombay Presidency.[1] The subsequent history of the northern Marhattá houses has already been sketched.[2] The Peshwá remained a British pensioner at Bithúr, near Cawnpore, on a magnificent allowance, till his death. His adopted son grew up into the infamous Náná Sáhib of the Mutiny of 1857, when the last relic of the Peshwás disappeared from the eyes of men.

End of the Peshwás, 1875.

EARLY EUROPEAN SETTLEMENTS. — The Muhammadan invaders of India had entered from the north-west. Her Christian conquerors approached by the sea from the south. From the time of Alexander to that of Vasco da Gama, Europe held little direct intercourse with the East. An occasional traveller brought back stories of powerful kingdoms and of untold wealth; but the passage by sea was scarcely dreamed of, and by land, wide deserts and warlike tribes lay between. Commerce, indeed, never ceased entirely, being carried on chiefly by the Italian cities on the Mediterranean, which traded to the ports of the Levant.[3] But to the Europeans of the 15th century, India was an unknown land, which powerfully attracted the imagination of spirits stimulated by the renais-

The Portuguese in India. Vasco da Gama, 1498.

[1] For a summary of the events of this last Marhattá war, see *post*, pp. 407, 408. Also Grant Duff's *History of the Mahrattas*, vol. iii. *passim*.

[2] *Ante*, pp. 367, 368.

[3] The following is a list of the most noteworthy early travellers to the East, from the 9th century to the establishment of the Portuguese as a conquering power in India. The Arab geographers will be found, in great detail, in Sir Henry Elliot's first volumes. The standard authority is *The Book of Ser Marco Polo the Venetian*, edited by Colonel Henry Yule, C.B., 2 vols., second edition, 1875. I take this opportunity of again thanking Colonel Yule for his kind help in the revision of those parts of the *Imperial Gazetteer* which come within the scope of his researches.

881 A.D. King Alfred sends Sighelm of Sherburn to the shrine of Saint Thomas in India.

851-916. Suláimán and Abu Zaid, whose travels furnished the *Relations* of Reinaud. 912-30. The geographer Mas'udi.

1159-73. Rabbi Benjamin of Tudela; visited Persian Gulf, reported on India.

1260-71. The brothers Nicolo and Maffeo Polo, father and uncle of Marco Polo; make their first trading venture through Central Asia.

1271. They started on their second journey, accompanied by Marco Polo; and about 1275, arrived at the Court of Kublai Khán in Shangtu, whence Marco Polo was entrusted with several missions to Cochin China, Khanbulig (Peking), and the Indian Seas.

1292. Friar John of Monte Corvino, afterwards Archbishop of Pekin; spent thirteen months in India on his way to China. [Ibn

sance, and ardent for discovery. The materials for this period have been collected by Dr. Birdwood in his admirable official *Report on the Old Records of the India Office* (1879), to which the following paragraphs are largely indebted. I have given the history of the various European settlements, in greater detail, under their respective articles in the *Imperial Gazetteer of India.* In 1492, Christopher Columbus sailed westwards under the Spanish flag to seek India beyond the Atlantic, bearing with him a letter to the great Khán of Tartary. He found America instead. An expedition under Vasco da Gama started from Lisbon five years later, in the opposite, or south-eastern, direction. It doubled the Cape of Good Hope, and cast anchor off the city of Calicut on the 20th May 1498, after a protracted voyage of nearly eleven months. An earlier Portuguese emissary, Covilham, had reached Calicut overland about 1487. From the first Da Gama encountered hostility from the Moors, or rather Arabs, who monopolized the sea-borne trade; but he seems to have found favour with the Zamorin or Hindu Rájá of Malabar. An Afghán of the Lodí dynasty was on the throne of Delhi, and another Afghán king was ruling over Bengal. Ahmedábád formed the seat of a Muhammadan dynasty in Guzerat. The five independent Muhammadan kingdoms of

State of India on arrival of Portuguese.

1304-78. Ibn Batuta, an Arab of Tangiers; after many years in the East, he attached himself to the Court of Muhammad Tughlak at Delhi, 1334-42, whence he was despatched on an embassy to China.

1316-31. Odorico di Pordenone, a Minorite friar; travelled in the East and through India by way of Persia, Bombay, and Surat (where he collected the bones of four missionaries martyred in 1321), to Malabar, the Coromandel coast, and thence to China and Tibet.

1328. Friar Jordanus of Severac, consecrated Bishop of Quilon.

1338-49. John de Marignolli, a Franciscan friar; on his return from a mission to China, visited Quilon in 1347, and made a pilgrimage to the shrine of St. Thomas in India in 1349.

1327-72. Sir John Mandeville; wrote his travels in India (supposed to be the first printed English book, London, 1499); but beyond the Levant his travels are fiction or borrowed.

1420-40. Nicolo Conti, a noble Venetian; travelled throughout Southern India and along the Bombay coast.

1442-44. Abd-ur-Razzak; during an embassy to India, visited Calicut, Mangalore, and Vijayanagar, where he was entertained in state by the Hindu sovereign of that kingdom.

1468-74. Athanasius Nikitin, a Russian; travelled from the Volga, through Central Asia and Persia, to Guzerat, Cambay, and Chaul, whence he proceeded inland to Bídar and Golconda.

1494-99. Hieronimo di Santo Stefano, a Genoese; visited the port of Malabar and the Coromandel coast as a merchant adventurer, and after proceeding to Ceylon and Pegu, sailed for Cambay.

1503-08. Travels of Ludovico di Varthema. In the *Hakluyt Series.*

Ahmednagar, Bijápur, Ellichpur, Golconda, and Bídar had partitioned out the Deccan. But the Hindu Rájá of Vijayanagar still ruled as paramount in the south, and was perhaps the most powerful monarch to be found at that time in India.

Rájá of Calicut's letter, 1499.

After staying nearly six months on the Malabar coast, Da Gama returned to Europe, bearing with him the following letter from the Zamorin to the King of Portugal :—'Vasco da Gama, a nobleman of your household, has visited my kingdom and has given me great pleasure. In my kingdom there is abundance of cinnamon, cloves, ginger, pepper, and precious stones. What I seek from thy country is gold, silver, coral, and scarlet.' The safe arrival of Da Gama at Lisbon was celebrated with national rejoicings as enthusiastic as those which had greeted the return of Columbus. If the West Indies belonged to Spain by priority of discovery, Portugal might claim the East Indies by the same right. The Portuguese mind was intoxicated by dreams of a mighty oriental empire.

Portuguese expedition, 1500.

The early Portuguese discoverers were not traders or private adventurers, but admirals with a royal commission to conquer territory and promote the spread of Christianity. A second expedition, consisting of thirteen ships and twelve hundred soldiers, under the command of Cabral, was despatched in 1500. 'The sum of his instructions was to begin with preaching, and if that failed, to proceed to the sharp determination of the sword.' On his outward voyage, Cabral was driven by stress of weather to the coast of Brazil. Ultimately he reached Calicut, and established factories both there and at Cochin, in spite of active hostility from the natives.

Portuguese supremacy in eastern seas, 1500-1600.

In 1502, the King of Portugal obtained from Pope Alexander VI. a bull constituting him 'Lord of the Navigation, Conquests, and Trade of Ethiopia, Arabia, Persia, and India.' In that year Vasco da Gama sailed again to the East, with a fleet numbering twenty vessels. He formed an alliance with the Rájás of Cochin and Cananore against the Zamorin of Calicut, and bombarded the latter in his palace. In 1503, the great Alfonso d'Albuquerque sailed to the East in command of one of three expeditions from Portugal. In 1505, a large fleet of twenty-two sail and fifteen thousand men was sent under Francisco de Almeida, the first Portuguese Governor and Viceroy of India. In 1509, Albuquerque succeeded as Governor, and widely extended the area of Portuguese influence. Having failed in an attack upon Calicut, he seized Goa in 1510, which has since remained the capital of Portuguese India. Then, sailing round Ceylon, he captured Malacca, the key of the navi-

Albuquerque takes Goa, 1510.

gation of the Indian archipelago, and opened a trade with Siam and the Spice Islands. Lastly, he sailed back westwards, and after penetrating into the Persian Gulf and the Red Sea, returned to Goa only to die in 1515. In 1524, Vasco da Gama came out to the East for the third time, and he too died at Cochin, in 1527. For exactly a century, from 1500 to 1600, the Portuguese enjoyed a monopoly of Oriental trade.[1]

Cruelties of Portuguese in India.

'From Japan and the Spice Islands to the Red Sea and the Cape of Good Hope, they were the sole masters and dispensers of the treasures of the East; while their possessions along the Atlantic coast of Africa and in Brazil completed their maritime empire.'[2] But the Portuguese had neither the political strength nor the personal character necessary to maintain such an Empire. Their national temper had been formed in their contest with the Moors at home. They were not traders, but knights-errant and crusaders, who looked on every pagan as an enemy of Portugal and of Christ. Only those who have read the contemporary narratives of their conquests, can realize the superstition and the cruelty with which their history in the Indies is stained. Albuquerque alone endeavoured to conciliate the goodwill of the natives, and to live in friendship with the Hindu princes, who were naturally better pleased to have the Portuguese, as governed by him, for their neighbours and allies, than the Muhammadans whom he had expelled or subdued. The justice and magnanimity of his rule did as much to extend and confirm the power of the Portuguese in the East as the courage and success of his military achievements. In such veneration was his memory held, that the Hindus of Goa, and even the Muhammadans, were wont to repair to his tomb, and there utter their complaints, as if in the presence of his shade, and call upon God to deliver them from the tyranny of his successors. 'The cruelties of Soarez, Sequeyra, Menezes, Da Gama, and succeeding viceroys, drove the natives to desperation, and encouraged the princes of Western India in 1567 to form a league against the Portuguese, in which they were joined by the King of Achín.' But the undisciplined Indian troops were unable to stand against the veteran soldiers of Portugal; 200 of whom, at Malacca, utterly routed 15,000

Their bravery.

[1] For a full account of the Portuguese in India, and the curious phases of society which they developed, see article GOA, *Imperial Gazetteer*, vol. iii. pp. 387-396. Also for local notices, DAMAN, DIU, BASSEIN, CALICUT.

[2] This and the following paragraphs are condensed from Dr. Birdwood's official *Report on the Miscellaneous Old Records in the India Office*, dated 1st November 1878 (folio, 1879).

natives with artillery. When, in 1578, Malacca was again besieged by the King of Achín, the small Portuguese garrison destroyed 10,000 of his men, and all his cannon and junks. Twice again, in 1615 and for the last time in 1628, it was besieged, and on each occasion the Achínese were repulsed with equal bravery. But the increased military forces sent out to resist these attacks proved an insupportable drain on the revenues and population of Portugal.

Spanish influences, 1580.

In 1580, the Portuguese crown was united with that of Spain, under Philip II. This proved the last blow to the maritime and commercial supremacy of Portugal. The interests of Portugal in Asia were henceforth subordinated to the European interests of Spain. In 1640, Portugal again became a separate kingdom. But in the meanwhile the Dutch and English had appeared in the Eastern seas; and before their indomitable competition, the Portuguese empire of the Indies withered away as rapidly as it had sprung up. The period of the highest development of Portuguese commerce was probably from 1590 to 1610, on the eve of the subversion of their commercial power by the Dutch, and when their political administration in India was at its lowest depth of degradation. At this period a single fleet of Portuguese merchantmen sailing from Goa to Cambay or Surat would number as many as 150 or 250 *carracks.* Now, only one Portuguese ship sails from Lisbon to Goa in the year.[1] The Dutch besieged Goa in 1603, and again in 1639. Both attacks were unsuccessful on land; but the Portuguese were gradually driven off the sea. In 1683, the Marhattás plundered to the gates of the city. The further history of the Portuguese in India is a miserable chronicle of pride, poverty, and sounding titles. The native princes pressed upon them from the land. On the sea they gave way to more vigorous European nations.

Downfall of Portuguese in India, 1639-1739.

The Portuguese possessions in 1871.

The only remaining Portuguese possessions in India are Goa, Dámán, and Díu, all on the west coast, with an area of 1086 square miles, and a population of 407,712 souls. The general Census of 1871 also returned 426 Portuguese in British India, not including those of mixed descent. About 30,000 of the latter are found in Bombay ('Portuguese' half-castes), and 20,000 in Bengal, chiefly in the neighbourhood of Dacca and Chittagong. The latter are known as Firinghis; and, excepting that they retain the Roman Catholic faith and European surnames, are scarcely to be distinguished either by colour, language, or habits of life from the natives among whom they live.

Mixed descendants.

[1] Reproduced, without verification, from Dr. Birdwood's Report, p. 70.

The Dutch in India, 1602-1824. The Dutch were the first European nation who broke through the Portuguese monopoly. During the 16th century, Bruges, Antwerp, and Amsterdam became successively the great emporia whence Indian produce, imported by the Portuguese, was distributed to Germany, and even to England. At first the Dutch, following in the track of the English, attempted to find their way to India by sailing round the north coasts of Europe and Asia. William Barents is honourably known as the leader of three of these arctic expeditions, in the last of which he perished. The first Dutchman to double the Cape of Good Hope was Cornelius Houtman, who reached Sumatra and Bantam in 1596. Forthwith private companies for trade with the East were formed in many parts of the United Provinces; but in 1602, they were all amalgamated by the States-General into 'The Dutch East India Company.' Within fifty years the Dutch had established factories on the continent of India, in Ceylon, in Sumatra, in the Persian Gulf, and in the Red Sea, besides having obtained exclusive possession of the Moluccas. Their progress, 1619. In 1619, they laid the foundation of the city of Batavia in Java, as the seat of the supreme government of the Dutch possessions in the East Indies, which had previously been at Amboyna. At about the same time they discovered the coast of Australia, and in North America founded the city of New Amsterdam or Manhattan, now New York.

Dutch supremacy in eastern seas, 1600-1700. During the 17th century, the Dutch maritime power was the first in the world. Their memorable massacre of the English at Amboyna, in 1623, forced the British Company to retire from the Eastern Archipelago to the continent of India, and thus led to the foundation of our Indian Empire. The long naval wars and bloody battles between the English and the Dutch within the narrow eastern seas, were not terminated until William of Orange united the two countries in 1689. In the Archipelago the Dutch ruled without a rival, and gradually expelled the Portuguese from almost all their territorial possessions. Their brilliant progress, 1635-69. In 1635, they occupied Formosa; in 1640, they took Malacca, a blow from which the Portuguese never recovered; in 1647, they were trading at Sadras, on the Pálár river; in 1651, they founded a colony at the Cape of Good Hope, as a half-way station to the East; in 1652, they built their first Indian factory at Pálakollu, on the Madras coast; in 1658, they captured Jaffnapatam, the last stronghold of the Portuguese in Ceylon. In 1664, they wrested from the Portuguese all their earlier settlements on the pepper-bearing coast of Malabar; and in 1669, they expelled the Portuguese from St. Thomé and Macassar.

The fall of the Dutch colonial empire resulted from its short-sighted commercial policy. It was deliberately based upon a monopoly of the trade in spices, and remained from first to last destitute of sound economical principles. Like the Phœnicians of old, the Dutch stopped short of no acts of cruelty towards their rivals in commerce; but, unlike the Phœnicians, they failed to introduce their civilisation among the natives with whom they came in contact. The knell of Dutch supremacy was sounded by Clive, when in 1758 he attacked the Dutch at Chinsurah both by land and water, and forced them to an ignominious capitulation. In the great French wars from 1793 to 1811, England wrested from Holland every one of her colonies; although Java was restored in 1816, and Sumatra exchanged for Malacca in 1824. At the present time, the Dutch flag flies nowhere on the mainland of India. But quaint houses at Chinsurah, Negapatam, Jaffnapatam, and other petty ports on the Coromandel and Malabar coast, with the formal canals or water-channels in some of these old Settlements, remind the traveller of scenes in the Netherlands. The passage between Ceylon and the mainland still bears the name of the Dutch governor, Palk. In the Census of 1872, only seventy Dutchmen were enumerated throughout all British India.[1]

Their short-sighted policy.

Stripped of their Indian possessions, 1758-1811.

The earliest English attempts to reach India were made by the North-west passage. In 1496, Henry VII. granted letters patent to John Cabot and his three sons (one of whom was the famous Sebastian) to fit out two ships for the exploration of this route. They failed, but discovered the island of Newfoundland, and sailed along the coast of America from Labrador to Virginia. In 1553, the ill-fated Sir Hugh Willoughby attempted to force a passage along the north of Europe and Asia, the successful accomplishment of which has been reserved for a Swedish savant of our own day. Sir Hugh perished miserably, but his second in command, Chancellor, reached a harbour on the White Sea, now Archangel. Thence he penetrated by land to the court of the Grand Duke of Moscow, and laid the foundation of 'the Russia Company for carrying on the overland trade between India, Persia, Bokhara, and Moscow.' Many subsequent attempts were made to find a North-west passage from 1576 to

Early English adventurers, 1496-1596.

The North-west passage, 1553-1616.

[1] For local notices of the Dutch in India, see articles SADRAS, PALAKOLLU, CHINSURAH, NEGAPATAM, PALK'S PASSAGE, etc., in their respective volumes of the *Imperial Gazetteer*.

1616. They have left on our modern maps the imperishable names of Frobisher, Davis, Hudson, and Baffin. Meanwhile, in 1577, Sir Francis Drake had circumnavigated the globe, and on his way home had touched at Ternate, one of the Moluccas, the king of which island agreed to supply the English nation with all the cloves it produced. The first modern Englishman known to have visited India was Thomas Stephens, in 1579. But William of Malmesbury states that in 883 Sighelmus of Sherborne, sent by King Alfred to Rome with presents to the Pope, proceeded thence to the East Indies to the tomb of St. Thomas (at Mailapur, a suburb of Madras), and brought back jewels and spices. Stephens (1579) was educated at New College, Oxford, and was rector of the Jesuits' College in Salsette. His letters to his father are said to have roused great enthusiasm in England to trade directly with India. In 1583, three English merchants, Ralph Fitch, James Newberry, and Leedes, went out to India overland as mercantile adventurers. The jealous Portuguese threw them into prison at Ormuz, and again at Goa. At length Newberry settled down as a shopkeeper at Goa; Leedes entered the service of the Great Mughal; and Fitch, after a lengthened peregrination in Ceylon, Bengal, Pegu, Siam, Malacca, and other parts of the East Indies, returned to England.[1]

Stephens, first Englishman in India, 1579.

Fitch, Newberry, Leedes, 1583.

The defeat of the 'Invincible Armada' in 1588, at which time the crowns of Spain and Portugal were in union, gave a fresh stimulus to maritime enterprise in England; and the successful voyage of Cornelius Houtman in 1596 showed the way round the Cape of Good Hope into waters hitherto monopolized by the Portuguese.

English East India Companies.

I condense the following paragraph on the early history of the English East India Companies, with little change, from Dr. Birdwood's valuable official report.[2] In 1599, the Dutch, who had now firmly established their trade in the East, raised the price of pepper against us from 3s. per lb. to 6s. and 8s. The merchants of London held a meeting on the 22d September at Founders' Hall, with the Lord Mayor in the chair, and agreed to form an association for the purposes of trading directly with India. Queen Elizabeth also sent Sir John Mildenhall by Constantinople to the Great Mughal to apply for privileges for an English Company. On the 31st December 1600,[3] the English East India Company was

[1] Condensed from *Report on Old Records in the India Office*, pp. 75-77.

[2] Condensed from *Report on Old Records in the India Office*, pp. 77 *et seq.*

[3] Auber gives the date as the 30th December, *Analysis of the Constitution*

First charter, 31st December 1600. Later companies, 1635, 1655, 1698, 1708. Amalgamated, 1709.

incorporated by royal charter under the title of 'The Governor and Company of Merchants of London trading to the East Indies.' The original Company had only 125 shareholders, and a capital of £70,000, which was raised to £400,000 in 1612, when voyages were first undertaken on the joint-stock account. Courten's Association, known as 'The Assada Merchants,' from a factory subsequently founded by it in Madagascar, was established in 1635, but, after a period of internecine rivalry, combined with the London Company in 1650. In 1655, the 'Company of Merchant Adventurers' obtained a charter from Cromwell to trade with India, but united with the original Company two years later. A more formidable rival subsequently appeared in the English Company, or 'General Society trading to the East Indies,' which was incorporated under powerful patronage in 1698, with a capital of 2 millions sterling. According to Evelyn, in his *Diary* for March 5, 1698, 'the old East India Company lost their business against the new Company by 10 votes in Parliament, so many of their friends being absent, going to see a tiger baited by dogs.' However, a compromise was effected through the arbitration of Lord Godolphin[1] in 1708; by which the 'London' and the 'English' Companies were finally amalgamated in 1709, under the style of 'The United Company of Merchants of England trading to the East Indies.' About the same time, the Company advanced loans to the State aggregating £3,200,000 at 5 per cent. interest, in return for the exclusive privilege to trade to all places between the Cape of Good Hope and the Straits of Magellan.[2]

Voyages, 1600-12.

The early voyages of the Company from 1600 to 1612 are distinguished as the 'separate voyages,' twelve in number. The subscribers individually bore the expenses of each voyage, and reaped the whole profits.[3] With the exception of the fourth, all these separate voyages were highly prosperous, the profits hardly ever falling below 100 per cent. After 1612, the voyages were conducted on the joint-stock account.

First voyages, 1602-11.

The English were promptly opposed by the Portuguese. But James Lancaster, even in the first voyage (1602), established commercial relations with the King of Achín and

of the East India Company, by Peter Auber, Assistant-Secretary to the Honourable Court of Directors, p. ix. (London, 1826.)

[1] 'Under the award of Lord Godolphin, by the Act of the 6th of Queen Anne, in 1708,' cap. 17. Auber's *Analysis*, p. xi.

[2] Mill, *Hist. Brit. Ind.*, vol. i. p. 151 (ed. 1840). Auber gives a detailed

at Priaman in the island of Sumatra, as well as with the Malaccas, and at Bantam, where he settled a factory or 'House of Trade' in 1603. In 1604, the Company undertook their second voyage, commanded by Sir Henry Middleton, who extended their trade to Banda and Amboyna. The success of these voyages attracted a number of private merchants to the business; and in 1606, James I. granted a licence to Sir Edward Michelborne and others to trade 'to Cathay, China, Japan, Corea, and Cambaya.' But Michelborne, on arriving in the East, instead of exploring new sources of commerce like the East India Company, followed the pernicious example of the Portuguese, and plundered the native traders among the islands of the Indian Archipelago. He in this way secured a considerable booty, but brought disgrace on the British name, and much hindered the Company's business at Bantam. In 1608, Captain D. Middleton, in command of the fifth voyage, was prevented by the Dutch from trading at Banda, but succeeded in obtaining a cargo at Pulo Way. In this year also, Captain Hawkins proceeded from Surat as envoy from James I. and the East India Company to the court of the Great Mughal. He was graciously received by the Emperor (Jahángír), and remained three years at Agra. In 1609, Captain Sharpe obtained the grant of free trade at Aden, and a cargo of pepper at Priaman. In this year also, the Company constructed the dockyard at Deptford, which was the beginning, observes Sir William Monson, 'of the increase of great ships in England.' In 1611, Sir Henry Middleton, in command of the sixth voyage, arrived before Cambay. He resolutely fought the Portuguese, who tried to beat him off, and obtained important concessions from the native powers. In 1610-11 also, Captain Hippon, commanding the seventh voyage, established agencies at Masulipatam, and in Siam, at Patania or Patany, on the Malay Peninsula, and at Pettipollee. We obtained leave to trade at Surat in 1612.

Swally fight, 1615.

In 1615, the Company's fleet, under Captain Best, was attacked off Swally, the port of Surat, at the mouth of the river Tápti, by an overwhelming force of Portuguese.[1] But the assailants were utterly defeated in four engagements, to the astonishment of the natives, who had hitherto considered them invincible. The first fruit of this decisive victory was the pre-eminence of our factory at Surat, with subordinate agencies at Gogra, Ahmedábád, and Cambay. Trade was also opened

[1] For this date and account of the engagement, see *Bombay Gazetteer*,

with the Persian Gulf. In 1614, an agency was established at Ajmere by Mr. Edwards of the Surat factory. The chief seat of the Company's government in Western India remained at Surat until 1684-87, when it was transferred to Bombay.[1] In 1615, Sir Thomas Roe was sent out by James I. as ambassador to the court of Jahángír, and succeeded in placing the Company's trade in the Mughal dominions on a more favourable footing. In 1618, the English established a factory at Mocha; but the Dutch compelled them to resign all pretensions to the Spice Islands. In that year also, the Company failed in its attempt to open a trade with Dabhol, Baticola, and Calicut, through a want of sincerity on the part of the Zamorin or Calicut Rájá. In 1619, we were permitted to establish a factory and build a fort at Jask, in the Persian Gulf.

Sir Thomas Roe, 1615.

In 1619, the 'Treaty of Defence' with the Dutch, to prevent disputes between the English and Dutch companies, was ratified. When it was proclaimed in the East, hostilities solemnly ceased for the space of an hour, while the Dutch and English fleets, dressed out in all their flags, and with yards manned, saluted each other. But the treaty ended in the smoke of that stately salutation, and the perpetual strife between the Dutch and English Companies went on as bitterly as ever. Up to that time, the English company did not possess any territory in sovereign right in the Indies, excepting in the island of Lantore or Great Banda. This island was governed by a commercial agent of the Company, who had under him thirty Europeans as clerks and warehousemen. This little band, with two hundred and fifty armed Malays, constituted the only force by which it was protected. In the islands of Banda and Pulo Roon and Rosengyn, the English Company had factories, at each of which were ten agents. At Macassar and Achín, they possessed agencies; the whole being subordinate to a head factory at Bantam in Java. In 1620, the Dutch, notwithstanding the Treaty of Defence concluded the previous year, expelled the English from Pulo Roon and Lantore, and in 1621 from Bantam. The fugitive factors tried to establish themselves, first at Pulicat, and afterwards at Masulipatam on the Coromandel coast, but were effectually opposed by the Dutch. In 1620, the Portuguese also attacked the English fleet under Captain Shillinge, but were defeated with great loss. From this time the estimation in which the Portuguese were held by the natives declined,

Treaty with Dutch, 1619.

English attacked by Dutch, 1620.

while that of the English rose. In 1620, too, the English Company established agencies at Agra and Patná. In 1622, they joined with the Persians, attacked and took Ormuz from the Portuguese, and obtained from Sháh Abbas a grant in perpetuity of the customs of Gombroon. This was the first time that the English took the offensive against the Portuguese. In the same year, our Company succeeded in re-establishing their factory at Masulipatam.

Masulipatam factory, 1622.

The massacre of Amboyna, 1623.

The massacre of Amboyna, which made so deep an impression on the English mind, marked the climax of the Dutch hatred to us in the eastern seas. After long and bitter recriminations, the Dutch seized our Captain Towerson at Amboyna, with 9 Englishmen, 9 Japanese, and 1 Portuguese sailor, in February 1623. They tortured the prisoners at their trial, and found them guilty of a conspiracy to surprise the garrison. The victims were executed in the heat of passion, and their torture and judicial murder led to an outburst of indignation in England. Ultimately, commissioners were appointed to adjust the claims of the two nations; and the Dutch had to pay a sum of £3615 as satisfaction to the heirs of those who had suffered. But from that time the Dutch remained masters of Lantore and the neighbouring islands. They monopolized the whole trade of the Indian Archipelago, until the great naval wars which commenced in 1793. In 1624, the English, unable to oppose the Dutch, withdrew nearly all their factories from the Archipelago, the Malay Peninsula, Siam, and Java. Some of the factors and agents retired to the island of Lagundy, in the Strait of Sunda, but were forced, by its unhealthiness, to abandon it.

English driven out of Archipelago, 1624.

English retire to India, 1625.

Their early factories, 1625-53.

In 1625-26, the English established a factory at Armagáon on the Coromandel coast, subordinate to Masulipatam.[1] But in 1628, Masulipatam was, in consequence of the oppressions of the native governors, for a time abandoned in favour of Armagáon, which now mounted 12 guns, and had 23 factors and agents. In 1629, the factory at Bantam in Java was re-established as an agency to Surat; and in 1630, Armagáon, reinforced by 20 soldiers, was also placed under the presidency of Surat. In 1632, the factory was re-established at Masulipatam, under a grant, known as the 'Golden Firman,' from the King of Golconda. In 1634, by a *farmán* dated February 2,

[1] In these chronological paragraphs I follow, almost verbatim, with a few omissions, additions, and corrections of dates, Dr. Birdwood's official *Report on the Old Records in the India Office* (folio), p. 83. For notices of the various towns mentioned, see the articles in the *Imperial Gazetteer*.

the Company obtained from the Great Mughal liberty to trade in Bengal. But their ships were to resort only to Pippli in Orissa, now left far inland by the sea. The Portuguese were in the same year expelled from Bengal. In 1634-35, Bantam was again raised to an independent presidency, and an agency was established at Tatta, or 'Scindy.' In 1637, Courten's Association (chartered 1635) settled agencies at Goa, Baticola, Kárwár, Achín, and Rájápur. Its ships had the year before plundered some native vessels at Surat and Diu. This act disgraced the Company with the Mughal authorities (who could not comprehend the distinction between the Company and the Association), and depressed the English trade with Surat, while that of the Dutch proportionately increased. In 1638, Armagáon was abandoned as unsuited for commerce; and in 1639, Fort St. George or Maderaspatam (Chineepatam) was founded by Francis Day, and the factors at Armagáon were removed to it. It was made subordinate to Bantam in Java, until raised in 1653 to the rank of a Presidency. In 1640, the Company established an agency at Bussorah, and a factory at Kárwár. Trade having much extended, the Company's yard at Deptford was found too small for their ships, and they purchased some copyhold ground at Blackwall, which at that time was a waste marsh, without an inhabitant. Here they opened another dockyard, in which was built the *Royal George*, of 1200 tons, the largest ship up to that time seen in England.

Trade to Bengal, 1634.

Bantam Presidency, 1635.

Madras founded, 1639.

The factory at Húglí was established in 1640, and at Balasor in 1642. In 1645, in consequence of professional services rendered by Mr. Gabriel Boughton, surgeon of the *Hopewell*, to the Emperor Sháh Jahán, additional privileges were granted to the Company; and in 1646, the Governor of Bengal, who had also been medically attended by Boughton, made concessions which placed the factories at Balasor and Húglí on a more favourable footing. In 1647, Courten's Association established its colony at Assada, in Madagascar. In 1652, Cromwell declared war against the Dutch on account of their accumulated injuries against the English Company. In 1653, the Company's factory at Lucknow was withdrawn. No record has been found of its establishment. In 1658, the Company established a factory at Kásimbázár (spelt 'Castle Bazaar' in the records), and their establishments in Bengal were made subordinate to Fort St. George, instead of to Bantam.

Húglí, 1640.

Madagascar, 1647.

In 1661, Bombay was ceded to the British crown as part of the dower of Catharine of Braganza, but was not delivered up

Bombay ceded, 1661.

Our factories, 1685.

until 1665. King Charles II. transferred it to the East India Company, for an annual payment of £10, in 1668. The seat of the Western Presidency was removed to it from Surat in 1684-87. The Company's establishments in the East Indies then consisted of the Presidency of Bantam in Java, with its dependencies of Jambee, Macassar, and other places in the Indian Archipelago; Fort St. George and its dependent factories on the Coromandel coast and Bengal; Surat, with its affiliated dependency of Bombay; and factories at Broach, Ahmedábád, and other places in Western India, also at Gombroom and Bussorah in the Persian Gulf and Euphrates valley. In 1661, the factory at Biliapatam was founded. In 1663, the factories which had been established at Patná, Balasor, and Kásimbázár were ordered to be discontinued, and purchases made only at Húglí. In 1664, Surat was pillaged by Sivají, but Sir George Oxenden bravely defended the English factory; and the Mughal Emperor, in admiration of his conduct, granted the Company an exemption from customs for one year.

Bantam.

Madras.

Bombay.

Persian Gulf.

Bengal.

Bengal separated from Madras, 1681.

In 1681, Bengal was separated from Madras, and Mr. Hodges appointed 'agent and governor' of the Company's affairs 'in the Bay of Bengal, and of the factories subordinate to it, at Kásimbázár, Patná, Balasor, Maldah, and Dacca. A corporal of approved fidelity with 20 soldiers, to be a guard to the agent's person at the factory of Húglí, and to act against interlopers.' In 1684, Sir John Child was made 'Captain-General and Admiral of India,' and Sir John Wyborne, 'Vice-Admiral and Deputy Governor of Bombay.' In 1687, the seat of the Presidency was finally transferred from Surat to Bombay. In 1686, Kásimbázár, in common with the other English factories in Bengal, had been condemned to confiscation by the Nawáb Shaistá Khán. The Húglí factory was much oppressed, and the Company's business throughout India suffered from the wars of the Mughals and Marhattás. Sir John Child was appointed titular 'Governor-General,'[1] with full power in India to make war or peace, and was ordered to proceed to inspect the Company's possessions in Madras and Bengal, and arrange for their safety. On the 20th of December 1686, the Company's Agent and Council quitted the factory at Húglí, and retired to Sutanati (Calcutta). Tegnapatam (Fort St. David) was first settled in this year (1686), and definitively established in 1691-92.

Bombay a Presidency, 1687.

Calcutta founded, 1686.

[1] Dr. Birdwood's *Report on the Old Records of the India Office*, p. 85, quotes this title from the MSS. It is, nominally, a century older than usually stated; but Hastings was the first real Governor-General, 1774.

In 1687-88, the Company's servants, broken in spirit by the oppressions of the native Viceroy, determined to quit their factories in Bengal. In 1688, Captain Heath, of the *Resolution*, in command of the Company's forces, embarked all its servants and goods, sailed down the Húglí, and anchored off Balasor. They were, however, soon invited to return by the Emperor, who granted them the site of the present city of Calcutta for a fortified factory. In 1689, our factories at Vizagapatam and Masulipatam were seized by the Muhammadans, and the factors were massacred. But in this same year, the Company determined to consolidate their position in India on the basis of territorial sovereignty, to enable them to resist the oppression of the Mughals and Marhattás. With that view, they passed the resolution, which was destined to turn their clerks and factors throughout India into conquerors and proconsuls: 'The increase of our revenue is the subject of our care, as much as our trade; 'tis that must maintain our force when twenty accidents may interrupt our trade; 'tis that must make us a nation in India. Without that we are but a great number of interlopers, united by His Majesty's royal charter, fit only to trade where nobody of power thinks it their interest to prevent us. And upon this account it is that the wise Dutch, in all their general advices that we have seen, write ten paragraphs concerning their government, their civil and military policy, warfare, and the increase of their revenue, for one paragraph they write concerning trade.'

English resolve to quit Bengal, 1686.

The Company embarks on territorial sway, 1689.

The Portuguese at no time attempted to found a Company, but kept their eastern trade as a royal enterprise and monopoly. The first incorporated Company was the English, established in 1600, which was quickly followed by the Dutch in 1602. The Dutch conquests, however, were made in the name of the State, and rank as national colonies, not as private possessions. Next came the French, whose first East India Company was founded in 1604; the second, in 1611; the third, in 1615; the fourth (Richelieu's), in 1642; the fifth (Colbert's), in 1644. The sixth was formed by the union of the French East and West India, Senegal, and China Companies under the name of 'The Company of the Indies,' in 1719. The exclusive privileges of this Company were, by the king's decree, suspended in 1769; and the Company was finally abolished by the National Assembly in 1796. The first Danish East India Company was formed in 1612, and the second in 1670. The settlements of Tranquebar and Seram-

Other 'East India Companies.'

Dutch;

French;

Danish;

pur were both founded in 1616, and acquired by the English by purchase from Denmark in 1845. Other Danish settlements on the mainland of India were Porto Novo; with Eddova and Holcheri on the Malabar coast. The Company started by the Scotch in 1695 may be regarded as having been still-born. The 'Royal Company of the Philippine Islands,' incorporated by the King of Spain in 1733, had little to do with India proper. Of more importance, although but short-lived, was 'The Ostend Company,' incorporated by the Emperor of Austria in 1723, its factors being chiefly persons who had served in the Dutch and English Companies. But the opposition of the maritime powers forced the court of Vienna in 1727 to suspend the Company's charter for seven years. The Ostend Company, after passing through a very trying existence, prolonged by the desire of the Austrian Government to participate in the growing East India trade, became bankrupt in 1784. It was finally extinguished by the arrangements made at the renewal of the English East India Company's charter in 1793. The last nation of Europe to engage in maritime trade with India was Sweden. When the Ostend Company was suspended, a number of its servants were thrown out of employment. Mr. Henry Köning, of Stockholm, took advantage of their knowledge of the East, and obtained a charter for the 'Swedish Company,' dated 13th June 1731. This Company was reorganized in 1806.

Scotch; Spanish; Ostend; Swedish.

European traders in 1871.

The extent to which foreign nations now carry on direct dealings with India may be inferred approximately from the following figures, taken from the Census Report of 1871. There were then in British India about 8000 inhabitants of continental Europe; but of these the nationality of only 2628 was more particularly specified, chiefly in Bengal. Germans numbered 755; French, 631; Portuguese, 426; Italians, 282; Greeks, 127; Swedes, 73; Russians, 72; Dutch, 70; Norwegians, 58; Danes, 45; Spaniards, 32; Belgians, 20; Swiss, 19; Turks, 18.

Our first territorial possession.

THE BRITISH EMPIRE OF INDIA.—The object of this article is to give a general survey of India; and the briefest narrative of our own national achievements must suffice. The political history of the British in India begins in the 18th century with the French wars in the Karnatic. Fort St. George, the nucleus of Madras, founded by Francis Day in 1639, was our earliest

Madras, 1639.

territorial possession, properly so called, in India. The land on which it stood, with an area round of about 5 miles in length by 1 mile in breadth, was purchased from the Rájá of Chandragiri, who claimed to be the lineal descendant of the Hindu Suzerains of Vijayanagar. The French settlement of Pondicherri, about 100 miles lower down the Coromandel coast, was established in 1674; and for many years the English and French traded side by side without rivalry or territorial ambition. The English appear to have been especially submissive to the native powers at Madras no less than in Bengal. They paid their annual rent of 1200 pagodas (say £500) to the deputies of the Mughal Empire when Aurangzeb annexed the south, and on two several occasions bought off a besieging army by a heavy bribe.

Madras purchased, 1639.

On the death of Aurangzeb in 1707, the whole of Southern India became, as we have seen, practically independent of Delhi.[1] In the Deccan Proper, the Nizám-ul-Mulk founded a hereditary dynasty, with Haidarábád for its capital, which exercised a nominal authority over the entire south. The Karnatic, or the lowland tract between the central plateau and the eastern sea, was ruled by a deputy of the Nizám, known as the Nawáb of Arcot, who in his turn asserted claims to hereditary sovereignty. Farther south, Trichinopoli was the capital of a Hindu Rájá; Tanjore formed another Hindu kingdom under a degenerate descendant of Sivají. Inland, Mysore was gradually growing into a third Hindu State; while everywhere local chieftains, called *pálegárs* or *naiks*, were in semi-independent possession of citadels or hill-forts. These represented the fief-holders of the ancient Hindu kingdom of Vijayanagar; and many of them had maintained a practical independence, subject to irregular payments and tribute, since its fall in 1565.

Southern India after 1707.

Local rulers.

Such was the condition of affairs in Southern India when war broke out between the English and the French in Europe in 1744. Dupleix was at that time Governor of Pondicherri, and Clive was a young writer at Madras. An English fleet first appeared on the Coromandel coast, but Dupleix by a judicious present induced the Nawáb of Arcot to interpose and prevent hostilities. In 1746, a French squadron arrived, under the command of La Bourdonnais. Madras surrendered almost without a blow; and the only settlement left to the English was Fort St. David, a few miles south of Pondicherri, where Clive and a few other fugitives sought shelter. The

French and English in Karnatic.

First war, 1746-48. We lose Madras, 1746.

[1] See *ante*, p. 360.

Nawáb, faithful to his impartial policy, marched with 10,000 men to drive the French out of Madras, but was defeated. In 1748, an English fleet arrived under Admiral Boscawen, and attempted the siege of Pondicherri, while a land force co-operated under Major Lawrence, whose name afterwards became associated with that of Clive. The French repulsed all attacks; but the treaty of Aix-la-Chapelle, in the same year, restored Madras to the English.[1]

Second war, 1750-61. Dupleix.

The first war with the French was merely an incident in the greater contest in Europe. The second war had its origin in Indian politics, while England and France were at peace. The easy success of the French arms had inspired Dupleix with the ambition of founding a French empire in India, under the shadow of the Muhammadan powers. Disputed successions at Haidarábád and at Arcot supplied his opportunity. On both thrones he placed nominees of his own, and for a short time posed as the arbiter of the entire south. In boldness of conception, and in knowledge of oriental diplomacy, Dupleix has had probably no rival. But he was no soldier, and he was destined in that sphere to encounter the 'heaven-born genius' of Clive. The English of Madras, under the instinct of self-preservation, had maintained the cause of another candidate to the throne of Arcot, in opposition to the nominee of Dupleix. Their candidate was Muhammad Alí, afterwards known in history as Wálá-jáh. The war which ensued between the French and English in Southern India has been exhaustively described by Orme. The one incident that stands out conspicuously is the capture and subsequent defence of Arcot by Clive in 1751. This heroic feat, even more than the battle of Plassey, spread the fame of English valour throughout India. Shortly afterwards, Clive returned to England in ill-health, but the war continued fitfully for many years. On the whole, English influence predominated in the Karnatic or Madras coast, and their candidate, Muhammad Alí, maintained his position at Arcot. But, inland, the French were supreme in the Deccan, and they were also able to seize the maritime tract called 'the Northern Circars.'

Clive.

Clive's defence of Arcot, 1751.

The final struggle did not take place until 1760. In that

[1] The original authorities for the French and English wars in Southern India are—(1) Orme's *Indostan*, 2 vols., Madras reprint, 1861; (2) Mill's *History of British India* (ed. 1840); and (3) for the French view of those transactions, Colonel Malleson's admirable *History of the French in India* (London, 1868), and *Final Struggles of the French in India* (London, 1878).

year Colonel (afterwards Sir Eyre) Coote won the decisive victory of Wandewash over the French General, Lally, and proceeded to invest Pondicherri, which was starved into capitulation in January 1761. A few months later the hill-fortress of Ginjee (Gingi) also surrendered.[1] In the words of Orme: 'That day terminated the long hostilities between the two rival European powers in Coromandel, and left not a single ensign of the French nation avowed by the authority of its Government in any part of India.'[2]

Wandewash, 1760.

Gingi surrendered, 5th April 1761.

Meanwhile, the narrative of British conquest shifts with Clive to Bengal. The first English settlement in that part of India was Pippli in Orissa, to which the East India Company was permitted to trade in 1634, five years before the foundation of Madras. The river on which Pippli stood has since silted up, and the very site of the English settlement is now a matter of conjecture. In 1640, a factory was opened at Húglí; in 1642, at Balasor; and in 1681, Bengal was erected into a separate presidency, though still subordinate to Madras. The name of Calcutta is not heard of till 1686, when Job Charnock, the chief at Húglí, was expelled by the deputy of Aurangzeb, and settled lower down the river on the opposite bank. There he acquired a grant of the three petty villages of Sutanati, Gobindpur, and Kálíghát (Calcutta), and founded the original Fort William in 1696.

The English in Bengal, 1634-96.

At the time of Aurangzeb's death, in 1707, the Nawáb or Governor of Bengal was Murshid Kulí Khán, known also in European history as Jafar Khán. By birth a Bráhman, and brought up as a slave in Persia, he united the administrative ability of a Hindu to the fanaticism of a renegade. Hitherto the capital of Bengal had been at Dacca, on the eastern frontier of the empire, whence the piratical attacks of the Portuguese and of the Arakanese or Maghs could be most easily checked. Murshid Kulí Khán transferred his residence to Murshidábád, in the immediate neighbourhood of Kásimbázár, which was then the river port of the Gangetic trade. The English, the French, and the Dutch had each factories at Kásimbázár, as well as at Dácca, Patná, and Maldah. But Calcutta was the headquarters of the English, Chandarnagar

Native rulers of Bengal, 1707-56.

European headquarters, 1740.

[1] A full account of GINGI is given, *sub verbo*, in vol. iii. of the *Imperial Gazetteer*, pp. 368-370. In like manner, the local history of each Presidency, Province, or town is treated in the separate article upon it, and can therefore only be very briefly summarized here. Thus, with regard to Calcutta, the reader is referred to vol. ii. of the *Imperial Gazetteer*, p. 315.

[2] Orme's *History of Military Transactions in Indostan* (1803), Madras reprint, vol. ii. p. 733 (1861).

of the French, and Chinsurah of the Dutch; these three towns being situated close to one another in the lower reaches of the Húglí, where the river was navigable for sea-going ships. Murshid Kulí Khán ruled over Bengal prosperously for twenty-one years, and left his power to a son-in-law and a grandson.

Alí Vardi Khán, 1740-56.

The hereditary succession was broken in 1740 by Alí Vardi Khán, a usurper, but the last of the great Nawábs of Bengal. In his days the Marhattá horsemen began to ravage the country, and the inhabitants of Calcutta obtained permission in 1742 to erect an earthwork, known to the present day as the Marhattá ditch. Alí Vardi Khán died in 1756,

Siráj-ud-Daulá, 1756.

and was succeeded by his grandson, Siráj-ud-Daulá (Surajah Dowlah), a youth of only eighteen years, whose ungovernable temper led to a rupture with the English within two months after his accession. In pursuit of one of his own family who had escaped from his vengeance, he marched upon Calcutta with a large army. Many of the English fled down the river in their ships. The remainder surrendered after some resist-

'Black Hole' of Calcutta, 1756.

ance, and were thrust for the night into the 'Black Hole' or military jail of Fort William, a room about 18 feet square, with only two small windows barred with iron. It was our ordinary garrison prison in those times of cruel military discipline. But although the Nawáb does not seem to have been aware of the consequences, it meant death to a crowd of 146 English men and women in the stifling heats of June. When the door of the prison was opened next morning, only 23 persons out of 146 remained alive.[1]

Clive and Watson.

The news of this disaster fortunately found Clive back again at Madras, where also was a squadron of the King's ships under Admiral Watson. Clive and Watson promptly sailed to the mouth of the Ganges with all the troops they could get

Calcutta recovered, 1756.

together. Calcutta was recovered with little fighting, and the Nawáb consented to a peace which restored to the Company all their privileges, and gave them ample compensation for their losses. It is possible that matters might have ended thus, if a fresh cause of hostilities had not suddenly arisen. War had just been declared between the English and French in Europe; and Clive, following the traditions of warfare in the Karnatic, captured the French settlement of Chandarnagar. Siráj-ud-Daulá, exasperated by this breach of neutrality within

[1] The contemporary record of that terrible night is Holwell's Narrative. The original materials have been carefully examined, and much misrepresentation has been cleared away by Dr. H. E. Busteed, in the Calcutta *Englishman*, several dates, 1880.

his dominions, took the side of the French. But Clive, again acting upon the policy which he had learned from Dupleix, provided himself with a rival candidate (Mír Jafar) to the throne. Undaunted, he marched out to the grove of Plassey, about 70 miles north of Calcutta, at the head of 1000 Europeans and 2000 sepoys, with 8 pieces of artillery. The Bengal Viceroy's army numbered 35,000 foot and 15,000 horse, with 50 cannon. Clive is said to have fought in spite of his Council of War. The truth is, he could scarcely avoid a battle. The Nawáb attacked with his whole artillery, at 6 A.M.; but Clive kept his men well under shelter, 'lodged in a large grove, surrounded with good mud banks.' At noon the enemy drew off into their entrenched camp for dinner. Clive only hoped to make a 'successful attack at night.' Meanwhile, the enemy being probably undressed over their cooking-pots, he sprang upon one of their advanced posts, which had given him trouble, and stormed 'an angle of their camp.' Several of the Nawáb's chief officers fell. The Nawáb himself, dismayed by the unexpected confusion, fled on a camel; his troops dispersed in a panic, and Clive found he had won a great victory. Mír Jafar's cavalry, which had hovered undecided during the battle, and had been repeatedly fired on by Clive, 'to make them keep their distance,' now joined our camp; and the road to Murshidábád lay open.[1]

Battle of Plassey, 1757.

The battle of Plassey was fought on June 23, 1757, an anniversary afterwards remembered when the Mutiny of 1857 was at its height. History has agreed to adopt this date as the beginning of the British Empire in the East. But the immediate results of the victory were comparatively small, and several years passed in hard fighting before even the Bengalis would admit the superiority of the British arms. For the moment, however, all opposition was at an end. Clive, again following in the steps of Dupleix, placed Mír Jafar upon the Viceregal throne at Murshidábád, being careful to obtain a patent of investiture from the Mughal court. Enormous sums were exacted from Mír Jafar as the price of his elevation. The Company claimed 10 million rupees as compensation for its losses. For the English, Indian, and Armenian inhabitants of Calcutta were demanded, respectively, 5 million, 2 million, and 1 million rupees; for the naval squadron and the army,

Its small results at first.

Mír Jafar, 1757.

[1] I take these numbers and the account of the battle from Clive's MS. Despatch to the Secret Committee, dated 26th July 1757. The quotations are Clive's own words.

$2\frac{1}{2}$ million rupees apiece. The members of the Council received the following amounts:—Mr. Drake, the Governor, and Colonel Clive, 280,000 rupees each; and Mr. Becker, Mr. Watts, and Major Kilpatrick, 240,000 rupees each. The whole claim amounted to £2,697,750. The English still cherished extravagant ideas of Indian wealth. But no funds existed to satisfy their inordinate demands, and they had to be contented with one-half the stipulated sums. Even of this reduced amount, one-third had to be taken in jewels and plate, there being neither coin nor specie left.

Grant of Twenty-four Parganás, 1757.

At the same time, the Nawáb made a grant to the Company of the *zamíndárí* or landholder's rights over an extensive tract of country round Calcutta, now known as the District of the Twenty-four Parganás. The area of this tract was 882 square miles. In 1757 the Company obtained only the *zamíndárí* rights—*i.e.*, the rights to collect the cultivators' rents, with the revenue jurisdiction attached. The superior lordship, or right to receive the land tax, remained with the Nawáb. But in 1759, this also was granted by the Delhi Emperor, the nominal Suzerain of the Nawáb, in favour of Clive, who thus became the landlord of his own masters, the Company. Clive was enrolled among the nobility of the Mughal Empire, with the rank of commander of 6000 foot and 5000 horse, and a large allotment of land near Calcutta, 1759.

Clive's *jágír*, 1759.

This military fief, or Clive's *jágír*, as it was called, subsequently became a matter of inquiry in England. Lord Clive's claims to the property as feudal Suzerain over the Company were contested in 1764; and on the 23d June 1765, when he returned to Bengal, a new deed was issued, confirming the unconditional *jágír* to Lord Clive for ten years, with reversion afterwards to the Company in perpetuity. This deed, having received the Emperor's sanction on the 12th August 1765, gave absolute validity to the original *jágír* grant in favour of Lord Clive. It transferred, eventually, to the Company the Twenty-four Parganás as a perpetual property based upon a *jágír* grant. The sum of Rs. 222,958, the amount at which the land was assessed when first made over to the Company in 1757, was paid to Lord Clive from 1765 until his death in 1774, when the whole proprietary right reverted to the Company.[1]

In 1758, Clive was appointed by the Court of Directors the

[1] For a full account of the different grants, and the powers granted by them, see *Statistical Account of Bengal*, vol. i. (TWENTY-FOUR PARGANAS), pp. 19, 20.

Clive, first Governor of Bengal, 1758;

first Governor of all the Company's settlements in Bengal.[1] Two powers threatened hostilities. On the west, the Sháhzáda or Imperial prince, known afterwards as the Emperor Sháh Alam, with a mixed army of Afgháns and Marhattás, and supported by the Nawáb Wazír of Oudh, was advancing his own claims to the Province of Bengal. In the south, the influence of the French under Lally and Bussy was overshadowing the British at Madras. The name of Clive exercised a decisive effect in both directions. Mír Jafar was anxious to buy off the Sháhzáda, who had already invested Patná. But Clive marched in person to the rescue, with an army of only 450 Europeans and 2500 sepoys, and the Mughal army dispersed without striking a blow. In the same year, Clive despatched a force southwards under Colonel Forde, which recaptured Masulipatam from the French, and permanently established British influence throughout the Northern Circars, and at the court of Haidarábád. He next attacked the Dutch, the only other European nation who might yet prove a rival to the English. He defeated them both by land and water; and their settlement at Chinsurah existed thenceforth only on sufferance.

scatters Oudh army; overcomes French in Madras; defeats Dutch.

Misman-agement, 1760-64.

From 1760 to 1765, Clive was in England. He had left no system of government in Bengal, but merely the tradition that unlimited sums of money might be extracted from

[1] GOVERNORS AND GOVERNORS-GENERAL OF INDIA UNDER THE EAST INDIA COMPANY, 1758-1858.

- 1758. Lord Clive, Governor.
- 1767. Harry Verelst.
- 1769. John Cartier.
- 1772. Warren Hastings; first Governor-General, 1774.
- 1785. Sir John Macpherson (*pro tem.*).
- 1786. Marquis of Cornwallis.
- 1793. Sir John Shore (Lord Teignmouth).
- 1798. Sir Alured Clarke (*pro tem.*).
- 1798. Lord Mornington (Marquis Wellesley).
- 1805. Marquis of Cornwallis (second time).
- 1805. Sir George Barlow (*pro tem.*).
- 1806. Earl of Minto.
- 1813. Earl of Moira, Marquis of Hastings.
- 1823. John Adam (*pro tem.*).
- 1823. Lord Amherst.
- 1828. Lord William Cavendish Bentinck.
- 1835. Sir Charles Metcalfe (Lord Metcalfe) (*pro tem.*).
- 1836. Earl of Auckland.
- 1842. Earl of Ellenborough.
- 1844. Viscount Hardinge.
- 1848. Earl (afterwards Marquis) of Dalhousie.
- 1856. Earl Canning.

VICEROYS OF INDIA UNDER THE CROWN, 1858-81.

- 1858. Earl Canning.
- 1862. Earl of Elgin.
- 1864. Sir John Lawrence (Lord Lawrence).
- 1869. Earl of Mayo.
- 1872. Earl of Northbrook.
- 1876. Earl of Lytton.
- 1880. Marquis of Ripon.

the natives by the terror of the English name. In 1761, it was found expedient and profitable to dethrone Mír Jafar, the English Nawáb of Murshidábád, and to substitute his son-in-law, Mír Kásim, in his place. On this occasion, besides private donations, the English received a grant of the three Districts of Bardwán, Midnapur, and Chittagong, estimated to yield a net revenue of half a million sterling. But Mír Kásim soon began to show a will of his own, and to cherish dreams of independence. He retired from Murshidábád to Monghyr, a strong position on the Ganges, commanding the only means of communication with the north-west. There he proceeded to organize an army, drilled and equipped after European models, and to carry on intrigues with the Nawáb Wazír of Oudh. He resolved to try his strength with the English, and found a good pretext. The Company's servants claimed the privilege of carrying on their private trade throughout Bengal, free from inland dues and all imposts. The assertion of this claim caused affrays between the customs officers of the Nawáb and the native traders, who, whether truly or not, represented that they were acting on behalf of the servants of the Company. The Nawáb alleged that his civil authority was everywhere set at nought. The majority of the Council at Calcutta would not listen to his complaints. The Governor, Mr. Vansittart, and Warren Hastings, then a junior member of Council, attempted to effect some compromise. But the controversy had become too hot. The Nawáb's officers fired upon an English boat, and forthwith all Bengal rose in arms. Two thousand of our sepoys were cut to pieces at Patná; about 200 Englishmen, who there and in other various parts of the Province fell into the hands of the Muhammadans, were massacred.[1]

Mír Kásim set up, 1761.

Patná massacre, 1763.

But as soon as regular warfare commenced, Mír Kásim met with no more successes. His trained regiments were defeated in two pitched battles by Major Adams, at Gheriah and at Udha-nálá; and he himself took refuge with the Nawáb Wazír of Oudh, who refused to deliver him up. This led to a prolongation of the war. Sháh Alam, who had now succeeded his father as Emperor, and Shujá-ud-Daulá, the Nawáb Wazír of Oudh, united their forces, and threatened Patná, which the English had recovered. A more formidable danger appeared in the English camp, in the form of the first sepoy mutiny. This was quelled by Major (afterwards Sir Hector) Munro,

First sepoy mutiny, 1764.

[1] The massacre of Patná is described in sufficient detail under article PATNA DISTRICT, vol. vii. pp. 321, 322, of the *Imperial Gazetteer*, and in my *Statistical Account of Bengal*, vol. xi. pp. 71 *et seq.*

who ordered 24 of the ringleaders to be blown from guns, an old Mughal punishment. In 1764, Major Munro won the decisive battle of Baxár, which laid Oudh at the feet of the conquerors, and brought the Mughal Emperor as a suppliant to the English camp. Battle of Baxár, 1764.

Meanwhile, the Council at Calcutta had twice found the opportunity they loved of selling the government of Bengal to a new Nawáb. But in 1765, Clive (now Baron Clive of Plassey in the peerage of Ireland) arrived at Calcutta, as Governor of Bengal for the second time. Two landmarks stand out in his policy. First, he sought the substance, although not the name, of territorial power, under the fiction of a grant from the Mughal Emperor. Second, he desired to purify the Company's service, by prohibiting illicit gains, and guaranteeing a reasonable pay from honest sources. In neither respect were his plans carried out by his immediate successors. But the beginning of our Indian rule dates from this second governorship of Clive, as our military supremacy had dated from his victory at Plassey. Clive's second governorship, 1765-67.

Clive landed, advanced rapidly up from Calcutta to Allahábád, and there settled in person the fate of nearly half of India. Oudh was given back to the Nawáb Wazír, on condition of his paying half a million sterling towards the expenses of the war. The Provinces of Allahábád and Kora,[1] forming the greater part of the Doáb, were handed over to Sháh Alam himself, who in his turn granted to the Company the *díwání* or fiscal administration of Bengal, Behar, and Orissa, and also the territorial jurisdiction of the Northern Circars. A puppet Nawáb was still maintained at Murshidábád, who received an annual allowance from us of £600,000. Half that amount, or about £300,000, we paid to the Emperor as tribute from Bengal.[2] Thus was constituted the dual system of government, by which the English received all the revenues and undertook to maintain the army; while the criminal jurisdiction, or *nizámat*, was vested in the Nawáb. In Indian phraseology, the Company was *díwán* and the Nawáb was *nizám*. The actual collection of the revenues still remained for some years in the hands of native officials. Clive's partition of Gangetic valley, 1765. Díwání grant of Bengal, 1765.

Clive's other great task was the reorganization of the Company's service. All the officers, civil and military alike, were

[1] The 'Corah' of the E. I. Company's records; the capital of an ancient Muhammadan governorship, now a decayed town in Fatehpur District. See article KORA, vol. v. p. 437, of the *Imperial Gazetteer of India.*

[2] The exact sums were Sikka Rs. 5,386,131 to the Nawáb, and Sikka Rs. 2,600,000 to the Emperor.

Clive's reorganization of the Company's service, 1766.

tainted with the common corruption. Their legal salaries were paltry and quite insufficient for a livelihood. But they had been permitted to augment them, sometimes a hundredfold, by means of private trade and gifts from the native powers. Despite the united resistance of the civil servants, and an actual mutiny of two hundred military officers, Clive carried through his reforms. Private trade and the receipt of presents were prohibited for the future, while a substantial increase of pay was provided out of the monopoly of salt.

Dual system of administration, 1767-72.

Lord Clive quitted India for the third and last time in 1767. Between that date and the governorship of Warren Hastings in 1772, little of importance occurred in Bengal beyond the terrible famine of 1770, which is officially reported to have swept away one-third of the inhabitants. The dual system of government established in 1765 by Clive, had proved a failure. Warren Hastings, a tried servant of the Company, distinguished alike for intelligence, for probity, and for knowledge of oriental manners, was nominated Governor by the Court of Directors, with express instructions to carry out a predetermined series of reforms. In their own words, the Court had resolved to 'stand forth as *díwán*, and to take upon themselves, by the agency of their own servants, the entire care and administration of the revenues.' In the execution of this plan, Hastings removed the exchequer from Murshidábád to Calcutta, and appointed European officers, under the now familiar title of Collectors, to superintend the revenue collections and preside in the courts.

Abolished 1772.

Warren Hastings, 1772-85.

Clive had laid the territorial foundations of the British Empire in Bengal. Hastings may be said to have created a British administration for that Empire. The wars forced on him by Native Powers in India, the clamours of his masters in England for money, and the virulence of Francis with a faction of his colleagues at the Council table in Calcutta, retarded the completion of his schemes. But the manuscript records disclose the patient statesmanship and indomitable industry which he brought to bear upon them. From 1765 to 1772, Clive's dual system of government, by corrupt native underlings and rapacious English chiefs, prevailed. Thirteen years were now spent by Warren Hastings in experimental efforts at rural administration by means of English officials (1772-85). The completion of the edifice was left to his successor. But Hastings was the administrative organizer, as Clive had been the territorial founder, of our Indian Empire.

His administrative reforms.

Hastings rested his claims as an Indian ruler on his admini-

strative work. He reorganized the Indian service, reformed every branch of the revenue collections, created courts of justice and some semblance of a police. But history remembers his name, not for his improvements in the internal administration, but for his bold foreign policy, and for the crimes into which it led him. From 1772 to 1774, he was Governor of Bengal; from the latter date to 1785, he was the first Governor-General of India, presiding over a Council nominated, like himself, under a statute of Parliament known as the Regulating Act (1773). In his domestic policy, he was greatly hampered by the opposition of his colleague in council, Philip Francis. But in his external relations with Oudh, with the Marhattás, and with Haidar Alí, he was generally able to compel assent to his views.

Hastings' policy with native powers.

Warren Hastings, first Governor-General, 1774.

His relations with the native powers, like his domestic policy, formed a well-considered scheme. Hastings had to find money for the Court of Directors in England, whose thirst for the wealth of India was not less keen, although more decorous, than that of their servants in Bengal. He had also to protect the Company's territory from the Native Powers, which, if he had not destroyed them, would have annihilated him. An honest man under such circumstances might be led into questionable measures. Hastings in his personal dealings, and as regards his personal gains, seems to have been a high-minded English gentleman. But as an Anglo-Indian statesman, he shared the laxity which he saw practised by the native potentates with whom he had to deal. Parts of his policy were vehemently assailed in Parliament, and cannot be upheld by right-thinking men. It is my business neither to attack nor to defend his measures, but to give a short account of them as a connected whole.

His two-fold aims.

Warren Hastings had in the first place to make Bengal pay. This he could not do under Clive's dual system of administration. When he abolished that double system, he cut down the Nawáb's allowance to one-half, and so saved about £160,000 a year. In defence of this act, it may be stated that the titular Nawáb, being then a minor, had ceased to render even any nominal service for his enormous pension. Clive had himself reduced the original £600,000 to £450,000 on the accession of a new Nawáb in 1766, and the grant was again cut down to £350,000 on a fresh succession in 1769.[1] The

Hastings makes Bengal pay.

[1] The detailed history of these transactions, and a sketch of each of the 14 Nawábs of Bengal from 1704 to 1876, will be found under District Murshidábád, vol. ix. pp. 172-195 of my *Statistical Account of Bengal.*

allowance had practically been of a fluctuating and personal character.[1] Its further reduction in the case of the new child-Nawáb had, moreover, been expressly ordered by the Court of Directors six months before Hastings took office.

Sells Allahábád and Kora, 1773.

Hastings' next financial stroke was the sale of Allahábád and Kora Provinces to the Wazír of Oudh. These Provinces had been assigned by Clive, in his partition of the Gangetic valley, to the Emperor Sháh Alam, together with a tribute of about £300,000 (26 *lákhs* of rupees), in return for the grant of Bengal to the Company. But the Emperor had now been seized by the Marhattás. Hastings held that His Majesty was no longer independent, and that it would be a fatal policy for the British to pay money to the Marhattás in Northern India, when it was evident that they would soon have to fight them in the south. He therefore withheld the tribute of the £300,000 from the puppet Emperor, or rather from his Marhattá custodians.

Withholds the Emperor's tribute.

Clive, at the partition of the Gangetic valley in 1765, assigned the Provinces of Allahábád and Kora to the Emperor. The Emperor, now in the hands of the Marhattás, had made them over to his new masters. Warren Hastings held that by so doing His Majesty had forfeited his title to these Provinces. Hastings accordingly resold them to the Wazír of Oudh. By this measure he freed the Company from a military charge of half a million sterling (40 *lákhs* of rupees), and obtained a price of over half a million (50 *lákhs*) for the Company. The sale included the loan of the British troops to subdue the Rohillá Afgháns, who had held a large tract in those Provinces ever since Ahmad Sháh's desolating invasion in 1761. The Rohillás were foreigners, and had cruelly lorded it over the peasantry.[2] They now resisted bravely, and were crushed with the merciless severity of Asiatic warfare by the Wazír of Oudh, aided by his British troops. By these measures Warren Hastings bettered the finances of Bengal to the extent of a million sterling a year on both sides of the account; but he did so at the cost of treaties and pensions granted by his predecessor Clive.

The Rohillá war, 1773-74.

He further improved the financial position of the Company by what is known as the plunder of Chait Sinh and the

[1] See separate agreements with the successive Nawábs of 30th September 1765, 19th May 1766, and 21st March 1770, in each of which the grant is to the Nawáb, without mention of heirs or successors.—Aitchison's *Treaties and Engagements*, vol. i. pp. 56-59 (ed. 1876).

[2] For the history of the Rohillá Afgháns, on whom much sentiment has been needlessly lavished, see article BAREILLY DISTRICT, *Imperial Gazetteer*, vol. i. pp. 433, 434, and other Districts of Rohilkhand.

Begam of Oudh. Chait Sinh, the Rájá of Benares, had grown rich under British protection. He resisted the demand of Warren Hastings to subsidize a military force, and an alleged correspondence with the enemies of the British Government led to his arrest. He escaped, headed a rebellion, and was crushed. His estates were forfeited, but transferred to his nephew subject to an increased tribute.[1] The Begam, or Queen-Mother, of Oudh was charged with abetting the Benares Rájá in his rebellion. A heavy fine was laid upon her, which she resisted to the utmost. But after cruel pressure on herself and the eunuchs of her household, over a million sterling was extorted. On his return to England, Warren Hastings was impeached, in 1786, by the House of Commons for these and other alleged acts of oppression. He was solemnly tried by the House of Lords, and the proceedings dragged themselves out for seven years (1788-95). They form one of the most celebrated State trials in English history, and ended in a verdict of not guilty on all the charges. Meanwhile, the cost of the defence had ruined Warren Hastings, and left him dependent upon the charity of the Court of Directors—a charity which never failed.

Plunder of Chait Sinh, 1780.

Hastings fines the Oudh Begam, 1782.

The real excuse, such as it is, for some of Hastings' measures is that he had to struggle for his very existence; that native perfidy gave him his opportunity; and that he used his opportunity, on the whole, less mercilessly than a native Viceroy would have done. It is a poor excuse for the clearest English head, and the firmest administrative hand, that ever ruled India. In his dealings with Southern India, Warren Hastings had not to regard solely the financial results. He there appears as the great man that he really was; calm in council, cautious of enterprise, but swift in execution, and of indomitable courage in all that he undertook.

Hastings' poor excuse.

The Bombay Government was naturally emulous to follow the example of Madras and Bengal, and to establish its supremacy at the Court of Poona by placing its own nominee upon the throne. This ambition found its scope, in 1775, by the treaty of Surat, by which Raghunáth Ráo, one of the claimants to the throne of the Peshwá, agreed to cede Salsette and Bassein to the English, in consideration of being himself restored to Poona. The military operations that followed are known as the first Marhattá war. Warren Hastings, who in his capacity of Governor-General claimed a right of control over the decisions of the Bombay Government, strongly disapproved of the treaty of Surat. But when war actually broke out, he threw

First Marhattá war, 1778-81.

[1] See *Imperial Gazetteer*, article BENARES, vol. i. pp. 533, 534, and 543.

the whole force of the Bengal army into the scale. One of his favourite officers, General Goddard, marched across the peninsula from sea to sea, and conquered the rich Province of Guzerat almost without a blow. Another, Captain Popham, stormed the rock-fortress of Gwalior, which was regarded as the key of Hindustán. These brilliant successes of the Bengal troops atoned for the disgrace of the convention of Wargaum in 1779, when the Marhattás had overpowered and dictated terms to our Bombay force, but the war was protracted until 1781. It was in 1872 closed by the treaty of Salbai, which practically restored the *status quo.* Raghunáth Ráo, the English claimant to the Peshwáship, was set aside on a pension; Guzerat was restored to the Marhattás; and only Salsette, with Elephanta and two other small islands, was retained by the English.

Goddard's march, 1779.

Treaty of Salbai, 1782.

Meanwhile, Warren Hastings had to deal with a more formidable enemy than the Marhattá confederacy. The reckless conduct of the Madras Government had roused the hostility both of Haidar Alí of Mysore and of the Nizám of the Deccan, the two strongest Musalmán powers in India. These attempted to draw the Marhattás into an alliance against the English. The diplomacy of Hastings won back the Nizám and the Marhattá Rájá of Nágpur; but the army of Haidar Alí fell like a thunderbolt upon the British possessions in the Karnatic. A strong detachment under Colonel Baillie was cut to pieces at Pollilore, and the Mysore cavalry ravaged the country up to the walls of Madras. For the second time the Bengal army, stimulated by the energy of Hastings, saved the honour of the English name. He despatched Sir Eyre Coote, the victor of Wandewash, to relieve Madras by sea, with all the men and money available, while Colonel Pearse marched south overland to overawe the Rájá of Berar and the Nizám. The war was hotly contested, for the aged Sir Eyre Coote had lost his energy, and the Mysore army was not only well-disciplined and equipped, but skilfully handled by Haidar and his son Tipú. Haidar died in 1782, and peace was finally concluded with Tipú in 1784, on the basis of a mutual restitution of all conquests.

War with Mysore, 1780-84.

Death of Haidar Alí, 1782.

Two years later, Warren Hastings was succeeded by Lord Cornwallis, the first English nobleman of rank who undertook the office of Governor-General of India. Between these two great names an interval of twenty months took place under Sir John Macpherson, a civil servant of the Company (Feb. 1785 to Sept. 1876). Lord Cornwallis twice held the high post of Governor-General. His first rule lasted from 1786

Lord Cornwallis, 1786-93.

to 1793, and is celebrated for two events—the introduction of the Permanent Settlement into Bengal, and the second Mysore war. If the foundations of the system of civil administration were laid by Hastings, the superstructure was raised by Cornwallis. It was he who first entrusted criminal jurisdiction to Europeans, and established the Nizámat Sadr Adálat, or Supreme Court of Criminal Judicature, at Calcutta; and it was he who separated the functions of Collector and Judge.

The system thus organized in Bengal was afterwards extended to Madras and Bombay, when those Presidencies also acquired territorial sovereignty. But the achievement most familiarly associated with the name of Cornwallis is the Permanent Settlement of the land revenue of Bengal. During four years, 1786-90, he laboured, with the help of an able Bengal civilian, John Shore, to arrive at the facts of the case. Warren Hastings had introduced, unsuccessfully and only for a period, a five years' settlement of the land revenue. Lord Cornwallis, after three years of inquiry and of provisional measures, introduced a ten years' or 'decennial' settlement (1789-91). Up to this time, the revenue had been collected pretty much according to the old Mughal system. The *zamíndárs*, or Government farmers, whose office always tended to become hereditary, were recognised as having a right to collect the revenue from the actual cultivators. But no principle of assessment existed, and the amount actually realized varied greatly from year to year. Hastings seems to have looked to experience, as acquired from a succession of quinquennial settlements, to furnish the standard rate of the future. Francis, on the other hand, Hastings' great rival, advocated a limitation of the State demand in perpetuity. The same view recommended itself to the authorities at home, partly because it would place their finances on a more stable basis, partly because it seemed to identify the *zamíndár* with the landlord of the English system of property. Accordingly, Cornwallis took out with him in 1787 instructions to introduce a Permanent Settlement.

The Decennial Settlement, 1789-91.

The Permanent Settlement of Bengal, 1793.

The process of assessment began in 1789, and terminated in 1791. No attempt was made to measure the fields or calculate the out-turn, as had been done by Akbar, and as is now done whenever settlements are made in the British Provinces. The amount to be paid in the future was fixed by reference to what had been paid in the past. At first the settlement was called decennial, but in 1793 it was declared permanent for ever. The total assessment amounted to Sikka Rs. 26,800,989, or

about 3 millions sterling for Bengal. Lord Cornwallis carried the scheme into execution, but the praise or blame, so far as details are concerned, belongs to Sir John Shore, afterwards Lord Teignmouth, a civil servant, whose knowledge of the country was unsurpassed in his time. Shore would have proceeded more cautiously than Cornwallis' preconceived idea of a proprietary body, and the Court of Directors' haste after fixity, permitted.[1]

Second Mysore war, 1790-92.

The second Mysore war of 1790-92 is noteworthy on two accounts. Lord Cornwallis, the Governor-General, led the British army in person, with a pomp and a magnificence of supply which recalled the campaigns of Aurangzeb. The two great southern powers, the Nizám of the Deccan and the Marhattá confederacy, co-operated as allies of the British. In the end, Tipú Sultán submitted when Lord Cornwallis had commenced to beleaguer his capital. He agreed to yield one-half of his dominions to be divided among the allies, and to pay 3 millions sterling towards the cost of the war. These conditions he fulfilled, but ever afterwards he burned to be revenged upon his English conquerors.

Sir John Shore, 1793-98.

Marquis of Wellesley, 1798-1805.

The period of Sir John Shore's rule as Governor-General, from 1793 to 1798, was uneventful. In 1798, Lord Mornington, better known as the Marquis of Wellesley, arrived in India, already inspired with imperial projects which were destined to change the map of the country. Mornington was the friend and favourite of Pitt, from whom he is thought to have derived his far-reaching political vision, and his antipathy to the French name. From the first he laid down as his guiding principle, that the English must be the one paramount power in the peninsula, and that native princes could only retain the insignia of sovereignty by surrendering their political independence. The history of India since his time has been but the gradual development of this policy, which received its finishing touch when Queen Victoria was proclaimed Empress of India on the 1st of January 1877.

French influence in India, 1798-1800.

To frustrate the possibility of a French invasion of India, led by Napoleon in person, was the governing idea of Wellesley's foreign policy. France at this time, and for many years later, filled the place afterwards occupied by Russia in the imagination of English statesmen. Nor was the danger so remote as might now be thought. French regiments guarded and overawed the Nizám of Haidarábád.

[1] The Permanent Settlement will be referred to in greater detail, and its practical working exhibited, under the Administrative section, *post*, p. 441.

The soldiers of Sindhia, the military head of the Marhattá confederacy, were disciplined and led by French adventurers. Tipú Sultán of Mysore carried on a secret correspondence with the French Directorate, allowed a tree of liberty to be planted in his dominions, and enrolled himself in a republican club as 'Citizen Tipú.' The islands of Mauritius and Bourbon afforded a convenient half-way rendezvous for French intrigue and for the assembling of a hostile expedition. Above all, Napoleon Buonaparte was then in Egypt, dreaming of the conquests of Alexander; and no man knew in what direction he might turn his hitherto unconquered legions.

Wellesley conceived the scheme of crushing for ever the French hopes in Asia, by placing himself at the head of a great Indian confederacy. In Lower Bengal, the conquests of Clive and the policy of Warren Hastings had made the English paramount. Before the end of the century, our power was consolidated from the seaboard to Benares, high up the Gangetic valley. Beyond our frontier there, the Nawáb Wazír of Oudh had agreed to pay a subsidy for the aid of British troops. This sum in 1797 amounted to £760,000 a year; and the Nawáb, being always in arrears, entered into negotiations for a cession of territory in lieu of a cash payment. In 1801, the treaty of Lucknow made over to the British the *doáb*, or fertile tract between the Ganges and the Jumna, together with Rohilkhand. In Southern India, our possessions were chiefly confined, before Lord Wellesley, to the coast Districts of Madras and Bombay. Wellesley resolved to make the British supreme as far as Delhi in Northern India, and to compel the great powers of the south to enter into subordinate relations to the Company's government. The intrigues of the native princes gave him his opportunity for carrying out this plan without breach of faith. The time had arrived when the English must either become supreme in India, or be driven out of it. The Mughal Empire was completely broken up; and the sway had to pass either to the local Muhammadan governors of that Empire, or to the Hindu confederacy represented by the Marhattás, or to the British. Lord Wellesley determined that it should pass to the British.

India before Lord Wellesley, 1798; in the north; in the south.

His work in Northern India was at first easy. The treaty of Lucknow in 1801 made us territorial rulers as far as the heart of the present North-Western Provinces, and established our political influence in Oudh. Beyond those limits, the northern branches of the Marhattás practically

Lord Wellesley's work; in the north;

held sway, with the puppet Emperor in their hands. Lord Wellesley left them untouched for a few years, until the second Márhattá war (1802-04) gave him an opportunity for dealing effectively with their nation as a whole. In Southern India, he saw that the Nizám at Haidarábád stood in need of his protection, and he converted him into a useful follower throughout the succeeding struggle. The other Muhammadan power of the south, Tipú Sultán of Mysore, could not be so easily handled. Lord Wellesley resolved to crush him, and had ample provocation for so doing. The third power of Southern India—namely, the Marhattá confederacy—was so loosely organized that Lord Wellesley seems at first to have hoped to live on terms with it. When several years of fitful alliance had convinced him that he had to choose between the supremacy of the Marhattás or of the British in Southern India, he did not hestitate to decide.

in the south.

Treaty with the Nizám, 1798.

Lord Wellesley first addressed himself to the weakest of the three southern powers, the Nizám at Haidarábád. Here he won a diplomatic success, which turned a possible rival into a subservient ally. The French battalions at Haidarábád were disbanded, and the Nizám bound himself by treaty[1] not to take any European into his service without the consent of the English Government,—a clause since inserted in every engagement entered into with Native Powers.

Wellesley next turned the whole weight of his resources against Tipú, whom Cornwallis had defeated, but not subdued. Tipú's intrigues with the French were laid bare, and he was given an opportunity of adhering to the new subsidiary system.

Third Mysore war, 1799.

On his refusal, war was declared, and Wellesley came down in viceregal state to Madras to organize the expedition in person, and to watch over the course of events. One English army marched into Mysore from Madras, accompanied by a contingent from the Nizám. Another advanced from the western coast. Tipú, after a feeble resistance in the field, retired into Seringapatam, and, when his capital was stormed, died fighting bravely in the breach, 1799. Since the battle of Plassey no event so greatly impressed the native imagination as the capture of Seringapatam, which won for General Harris a peerage, and for Wellesley an Irish Marquisate. In dealing with the territories of Tipú, Wellesley acted with moderation. The central portion, forming the old State of Mysore, was restored to an infant representative of the Hindu Rájás, whom Haidar

Fall of Seringapatam, 1799.

[1] Dated 1st September 1798.—Aitchison's *Treaties and Engagements*, vol. v. pp. 173-176 (1876).

Alí had dethroned; the rest of Tipú's dominions was partitioned between the Nizám, the Marhattás, and the English. At about the same time, the Karnatic, or the part of South-eastern India ruled by the Nawáb of Arcot, and also the principality of Tanjore, were placed under direct British administration, thus constituting the Madras Presidency almost as it has existed to the present day. The sons of the slain Tipú were treated by Lord Wellesley with paternal tenderness. They received a magnificent allowance, with semi-royal establishment, first at Vellore, and afterwards in Calcutta. The last of them, Prince Ghulam Muhammad, was long a familiar and public-spirited citizen of Calcutta, an active Justice of the Peace, and died only a few years ago (about 1877).

The Marhattás in 1800.

The Marhattás had been the nominal allies of the English in both their wars with Tipú. But they had not rendered active assistance, nor were they secured to the English side as the Nizám now was. The Marhattá powers at this time were five in number. The recognised head of the confederacy was the Peshwá of Poona, who ruled the hill country of the Western Gháts, the cradle of the Marhattá race. The fertile Province of Guzerat was annually harried by the horsemen of the Gáekwár of Baroda. In Central India, two military leaders, Sindhia of Gwalior and Holkar of Indore, alternately held the pre-eminency. Towards the east, the Bhonslá Rájá of Nágpur reigned from Berar to the coast of Orissa. Wellesley laboured to bring these several Marhattá powers within the net of his subsidiary system. In 1802, the necessities of the Peshwá, who had been defeated by Holkar, and driven as a fugitive into British territory, induced him to sign the treaty of Bassein. By this, he pledged himself to the British to hold communications with no other power, European or Native, and granted to us Districts for the maintenance of a subsidiary force. This greatly extended the English territorial influence in the Bombay Presidency. But it led to the second Marhattá war, as neither Sindhia nor the Rájá of Nágpur would tolerate the Peshwá's betrayal of the Marhattá independence.

Second Marhattá war, 1802-04.

The campaigns which followed are perhaps the most glorious in the history of the British arms in India. The general plan, and the adequate provision of resources, were due to the Marquis of Wellesley, as also the indomitable spirit which refused to admit of defeat. The armies were led by Sir Arthur Wellesley (afterwards Duke of Wellington), and General (afterwards Lord) Lake. Wellesley operated in the Deccan

British victories, 1802-03.

where, in a few short months, he won the decisive victories of Assaye and Argaum, and captured Ahmednagar. Lake's campaign in Hindustán was no less brilliant, although it has received less notice from historians. He won pitched battles at Alígarh and Láswárí, and took the cities of Delhi and Agra. He scattered the French troops of Sindhia, and at the same time stood forward as the champion of the Mughal Emperor in his hereditary capital. Before the end of 1803, both Sindhia and the Bhonslá Rájá of Nagpur sued for peace. Sindhia ceded all claims to the territory north of the Jumna, and left the blind old Emperor Sháh Alam once more under British protection. The Bhonslá forfeited Orissa to the English, who had already occupied it with a flying column in 1803, and Berar to the Nizám, who gained a fresh addition by every act of complaisance to the British Government. The freebooter Jaswant Ráo Holkar alone remained in the field, supporting his troops by raids through Málwá and Rájputána. The concluding years of Wellesley's rule were occupied with a series of operations against Holkar, which brought little credit on the British name. The disastrous retreat of Colonel Monson through Central India (1804) recalled memories of the convention of Wargaum, and of the destruction of Colonel Baillie's force by Haidar Alí. The repulse of Lake in person at the siege of Bhartpur (Bhurtpore) is memorable as an instance of a British army in India having to turn back with its object unaccomplished (1805). Bhartpur was not finally taken till 1827.

Later disasters, 1804-05.

India after Lord Wellesley, 1805; in the north;

Lord Wellesley during his six years of office carried out almost every part of his territorial scheme. In Northern India, Lord Lake's campaigns, 1803-05, brought the North-Western Provinces (the ancient *Madhya-desa*) under British rule, together with the custody of the puppet Emperor. The new Districts were amalgamated with those previously acquired from the Nawáb Wazír of Oudh into the 'Ceded and Conquered Provinces.' This partition of Northern India remained till the Síkh wars of 1844 and 1847 gave us the Punjab. In South-eastern India, we have seen that Lord Wellesley's conquests constituted the Madras Presidency almost as it exists at this date. In South-western India, the Peshwá was reduced to a vassal of the Company. But the territories now under the Governor of Bombay were not finally built up into their present form until the last Marhátta war in 1818.

in the south.

The financial strain caused by these great operations of Lord Wellesley had meanwhile exhausted the patience of the

Court of Directors at home. In 1805, Lord Cornwallis was sent out as Governor-General a second time, with instructions to bring about peace at any price, while Holkar was still unsubdued, and with Sindhia threatening a fresh war. But Cornwallis was now an old man, and broken down in health. Travelling up to the north-west during the rainy season, he sank and died at Gházípur, before he had been ten weeks in the country. His immediate successor was Sir George Barlow, a civil servant of the Company, who as a *locum tenens* had no alternative but to carry out the commands of his employers. Under these orders, he curtailed the area of British territory, and, in violation of engagements, abandoned the Rájput chiefs to the cruel mercies of Holkar and Sindhia. During his administration, also, occurred the mutiny of the Madras sepoys at Vellore (1806), which, although promptly suppressed, sent a shock of insecurity throughout the empire. The feebly economical policy of this interregnum proved a most disastrous one. But, fortunately, the rule soon passed into firmer hands.

Marquis of Cornwallis again, 1805.

Sir George Barlow, 1805.

Lord Minto, Governor-General from 1807 to 1813, consolidated the conquests which Wellesley had acquired. His only military exploits were the occupation of the island of the Mauritius, and the conquest of Java by an expedition which he accompanied in person. The condition of Central India continued to be disturbed, but Lord Minto succeeded in preventing any violent outbreaks without himself having recourse to the sword. The Company had ordered him to follow a policy of non-intervention, and he managed to obey his orders without injuring the prestige of the British name. Under his auspices, the Indian Government opened relations with a new set of foreign powers, by sending embassies to the Punjab, to Afghánistán, and to Persia. The ambassadors were all trained in the school of Wellesley, and formed, perhaps, the most illustrious trio of 'politicals' whom the Indian services have produced. Metcalfe went as envoy to the Síkh Court of Ranjít Sinh at Lahore; Elphinstone met the Sháh of Afghánistán at Peshawár; and Malcolm was despatched to Persia. It cannot be said that these missions were fruitful of permanent results; but they introduced the English to a new set of diplomatic relations, and widened the sphere of their influence.

Earl of Minto, 1807-13.

The successor of Lord Minto was the Earl of Moira, better known by his later title as the Marquis of Hastings. The Marquis of Hastings completed Lord Wellesley's conquests

Lord Moira (Marquis of Hastings), 1814-23.

Lord Moira, 1814.

in Central India, and left the Bombay Presidency almost as it stands at present. His long rule of nine years, from 1814 to 1823, was marked by two wars of the first magnitude, namely, the campaigns against the Gúrkhas of Nepál, and the last Marhattá struggle. The Gúrkhas, the present ruling race in Nepál, are Hindu immigrants, who claim a Rájput origin. The indigenous inhabitants, called Newars, belong to the Indo-Tibetan stock, and profess Buddhism. The sovereignty of the Gúrkhas dates only from 1767, in which year they overran the valley of Khatmandu, and gradually extended their power over the hills and valleys of Nepál. Organized upon a military and feudal basis, they soon became a terror to their neighbours, marching east into Sikkim, west into Kumáun, and south into the Gangetic plains. In the last quarter their victims were British subjects (natives of Bengal), and it became necessary to check their advance. Sir George Barlow and Lord Minto had remonstrated in vain, and nothing was left to Lord Moira but to take up arms. The first campaign of 1814 was unsuccessful. After overcoming the natural difficulties of a malarious climate and precipitous hills, our troops were on several occasions fairly worsted by the impetuous bravery of the little Gúrkhas, whose heavy knives or *kukris* dealt terrible execution. But in the cold weather of 1814, General Ochterlony, who advanced by way of the Sutlej, stormed one by one the hill forts which still stud the Himálayan States, now under the Punjab Government, and compelled the Nepál *darbár* to sue for peace. In the following year, 1815, the same general made his brilliant march from Patná into the lofty valley of Khatmandu, and finally dictated the terms which had before been rejected, within a few miles of the capital. By the treaty of Segauli, which defines the English relations with Nepál to the present day, the Gúrkhas withdrew on the south-east from Sikkim; and on the south-west, from their advanced posts in the outer ranges of the Himálayas which have supplied the health-giving stations of Naini Tál, Massuri, and Simla.

Nepál war, 1814-15.

Treaty of Segauli; cedes Himálayan tracts, 1815.

The Pindárís, 1804-17.

Meanwhile, the condition of Central India was every year becoming more unsatisfactory. The great Marhattá chiefs had learned to live as princes rather than as predatory leaders. But their old example of lawlessness was being followed by a new set of freebooters, known as the Pindárís. As opposed to the Marhattás, who were at least a Hindu nationality bound by traditions of a united government, the Pindárís were merely plundering bands, closely corresponding to the free

Pindárí bands, 1815.

companies of mediæval Europe. Of no common race, and of no common religion, they welcomed to their ranks the outlaws and broken tribes of all India—Afgháns, Marhattás, or Játs. They represented the débris of the Mughal Empire, which had not been incorporated by either the local Muhammadan or Hindu powers which sprang up out of its ruins. For a time, indeed, it seemed as if the inheritance of the Mughal might pass to these armies of banditti. In Bengal, similar hordes had formed themselves out of the disbanded Muhammadan troops and the Hindu predatory castes. But they had been dispersed under the vigorous rule of Warren Hastings. In Central India, the evil lasted longer, attained a greater scale, and was only stamped out by a regular war.

Pindárí leaders.

Pindárí war, 1817.

The Pindárí headquarters were in Málwá, but their depredations were not confined to Central India. In bands, sometimes of a few hundreds, sometimes of many thousands, they rode out on their forays as far as the opposite coasts of Madras and of Bombay. The most powerful of the Pindárí captains, Amír Khán, had an organized army of many regiments, and several batteries of cannon. Two other leaders, known as Chítu and Karím, at one time paid a ransom to Sindhia of £100,000. To suppress the Pindárí hordes, who were supported by the sympathy, more or less open, of all the Marhattá chiefs, Lord Hastings (1817) collected the strongest British army which had been seen in India, numbering 120,000 men. One-half operated from the north, the other half from the south. Sindhia was overawed, and remained quiet. Amír Khán disbanded his army, on condition of being guaranteed the possession of what is now the principality of Tank. The remaining bodies of Pindárís were attacked in their homes, surrounded, and cut to pieces. Karim threw himself upon the mercy of the conquerors. Chitu fled to the jungles, and was killed by a tiger. In the same year (1817) and almost in the same month (November) as that in which the Pindárís were crushed, the three great Marhattá powers at Poona, Nágpur, and Indore rose separately against the English.

Last Marhattá war, 1817-18.

The Peshwá, Báji Ráo, had long been chafing under the terms imposed by the treaty of Bassein (1802). A new treaty of Poona, in June 1817, now freed the Gáekwár from his control, ceded further districts to the British for the pay of the subsidiary force, and submitted all future disputes to the decision of our Government.

Elphinstone, then our Resident at his Court, foresaw a storm.

and withdrew to Kírki, whither he had ordered up a European regiment. The next day the Residency was burnt down, and Kírki was attacked by the whole army of the Peshwá. The attack was bravely repulsed, and the Peshwá immediately fled from his capital. Almost the same plot was enacted at Nágpur, where the honour of the British name was saved by the sepoys, who defended the hill of Sítábaldi against enormous odds. The army of Holkar was defeated in the following month at the pitched battle of Mehidpur. All open resistance was now at an end. Nothing remained but to follow up the fugitives, and to impose conditions for a general pacification. In both these duties Sir John Malcolm played a prominent part. The dominions of the Peshwá were annexed to the Bombay Presidency, and the nucleus of the present Central Provinces was formed out of the territory rescued from the Pindárís. The Peshwá himself surrendered, and was permitted to reside at Bithúr, near Cawnpore, on a pension of £80,000 a year. His adopted son was the infamous Náná Sáhib of the Mutiny of 1857. To fill the Peshwá's place, as the traditional head of the Marhattá confederacy, the lineal descendant of Sivají was brought forth from obscurity and placed upon the throne of Sátára. An infant was recognised as the heir of Holkar, and a second infant was proclaimed Rájá of Nágpur under British guardianship. At the same time, the States of Rájputána accepted the position of feudatories to the paramount British power. The map of India, as thus drawn by Lord Hastings, remained substantially unchanged until the time of Lord Dalhousie. But the proudest boast of Lord Hastings and Sir John Malcolm was, not that they had advanced the *pomœrium*, but that they had conferred the blessings of peace and good government upon millions who had groaned under the extortions of the Marhattás and Pindárís.

Bombay territories annexed, 1818.

Map of India, 1818-48.

Mr. Adam, 1823.

The Marquis of Hastings was succeeded by Lord Amherst, after the interval of a few months, during which Mr. Adam, a civil servant, acted as Governor-General. The Marhattá war in the Peninsula of India was hardly completed when our armies had to face new enemies beyond the sea. Lord Amherst's administration lasted for five years, from 1823 to 1828. It is known in history by two prominent events, the first Burmese war and the capture of Bhartpur. For some years past, our north-eastern frontier had been disturbed by Burmese raids. Burma, or the country which fringes the western shore of the Bay of Bengal, and runs up the valley

Lord Amherst, 1823-28.

of the Irawadi, has a people of Tibeto-Chinese origin, and a history of its own. Tradition asserts that its early civilisation was introduced from the Indian coast of Coromandel, by a people who are supposed to preserve a trace of their origin in their name of Talaing (*cf.* Telingána). However this may be, the Buddhist religion, professed by the Burmese at the present day, certainly came from India at a very early date. Waves of invasion from Siam on the south, and from the wild mountains of Asia in the north, have passed over the land. These conquests were marked by that wanton and wholesale barbarity which seems to characterise the Tibeto-Chinese race, but the civilisation of Buddhism survived every shock, and flourished around the ancient pagodas. European travellers in the 15th century visited Pegu and Tenasserim, which they describe as flourishing marts of maritime trade. During the period of Portuguese predominance in the East, Arakan became the asylum for desperate European adventurers. With their help, the Arakanese extended their power inland, occupied Chittagong, and (under the name of the Maghs) became the terror of the Gangetic delta. About 1750, a new dynasty arose, founded by Alaungphaya or Alompra, with its capital at Ava, and still rules over Independent Burma.[1]

Ancient Burma.

Burma, 15th cent. A.D.

The successors of Alompra, after having subjugated all Burma, and overrun Assam, about 1800, which was then an independent kingdom, began a series of encroachments upon the British Districts. As they rejected all peaceful proposals with scorn, Lord Amherst was at last compelled to declare war in 1824. Little military glory could be gained by beating the Burmese, who were formidable chiefly from the pestilential character of their country. One expedition with gunboats proceeded up the Brahmaputra into Assam. Another marched by land through Chittagong into Arakan, for the Bengal sepoys refused to go by sea. A third, and the strongest, sailed from Madras direct to the mouth of the Irawadi. The war was protracted over two years. After a loss to us of about 20,000 lives, chiefly from disease, and an expenditure of £14,000,000, the King of Ava signed, in 1826, the treaty of Yandabu. By this he abandoned all claim to Assam, and ceded the Provinces of Arakan and Tenasserim, already in the military occupation of the British. He retained the whole valley of the Irawadi, down to the sea at Rangoon.

Burmese encroachments on India.

First Burmese war, 1824.

Assam, etc., annexed, 1826.

Bhartpur taken, 1827.

The capture of Bhartpur in Central India by Lord Combermere, in January 1827, wiped out the repulse which Lake had received before that city in January 1805. A disputed succession led to the British intervention. Artillery could make little impression upon the massive walls of mud. But at last a breach was effected by mining, and the city was taken by storm, thus removing the popular notion throughout India that it was impregnable—a notion which had threatened to become a political danger.

Lord William Bentinck, 1828-35.

The next Governor-General was Lord William Bentinck, who had been Governor of Madras twenty years earlier, at the time of the mutiny of Vellore (1806). His seven years' rule (from 1828 to 1835) is not signalized by any of those victories or extensions of territory by which chroniclers measure the growth of an Empire. But it forms an epoch in administrative reform, and in the slow process by which a subject population is won over to venerate as well as to dread its alien rulers. The modern history of the British in India, as benevolent administrators, ruling the country with a single eye to the good of the natives, may be said to begin with Lord William Bentinck. According to the inscription upon his statue at Calcutta, from the pen of Macaulay: 'He abolished cruel rites; he effaced humiliating distinctions; he gave liberty to the expression of public opinion; his constant study was to elevate the intellectual and moral character of the nations committed to his charge.' His first care on arrival in India was to restore equilibrium to the finances, which were tottering under the burden imposed upon them by the Burmese war. This he effected by three series of measures—first, by reductions in permanent expenditure, amounting to 1½ million sterling a year; second, by augmenting the revenue from land which had unfairly escaped assessment; third, by duties on the opium of Málwá. He also widened the gates by which educated natives could enter the service of the Company. Some of these reforms were distasteful to the covenanted service and to the officers of the army. But Lord William was staunchly supported by the Court of Directors and by the Whig Ministry at home.

His financial reforms.

Abolition of *satí*, 1829.

His two most memorable acts are the abolition of *satí*, or widow-burning, and the suppression of the *thags*. At this distance of time it is difficult to realize the degree to which these two barbarous practices had corrupted the social system of the Hindus. European research has clearly proved that the text in the Vedas adduced to authorize the immolation

of widows, was a wilful mistranslation.[1] But the practice had been enshrined in Hindu opinion by the authority of centuries, and had acquired the sanctity of a religious rite. The Emperor Akbar prohibited it, but failed to put it down. The early English rulers did not dare to violate the religious traditions of the people. In the year 1817, no less than 700 widows are said to have been burned alive in the Bengal Presidency alone. To this day, the holy spots of Hindu pilgrimage are thickly dotted with little white pillars, each commemorating a *satí*. In spite of strenuous opposition, both from Europeans and natives, Lord William Bentinck carried a regulation in Council on the 4th December 1829, by which all who abetted *satí* were declared guilty of 'culpable homicide.' The honour of suppressing *thagí* must be shared between Lord William Bentinck and Captain Sleeman. *Thags* were hereditary assassins, who made strangling their profession. They travelled in bands, disguised as merchants or pilgrims, and were sworn together by an oath based on the rites of the bloody goddess Kálí. Between 1826 and 1835, as many as 1562 *thags* were apprehended in different parts of British India, and, by the evidence of approvers, this moral plague-spot was gradually stamped out.

Suppression of *thagí*.

Two other historical events are connected with the administration of Lord William Bentinck. In 1833, the Charter of the East India Company was renewed for twenty years, but upon the conditions that the Company should abandon its trade and permit Europeans to settle in the country. At the same time, a fourth or legal member was added to the Governor-General's Council, who might not be a servant of the Company; and a Commission was appointed to revise and codify the law. Macaulay was the first legal member of Council, and the first President of the Law Commission. In 1830, it was found necessary to take the State of Mysore under British administration. It continued so up to the present year, when it was restored to native government (March 1881). In 1834, the frantic misrule of the Rájá of Coorg brought on a short and sharp war. The Rájá was permitted to retire to Benares; and the brave and proud inhabitants of his mountainous little territory decided to place themselves under the sway of the Company. This was the only annexation effected by Lord William Bentinck, and it was done 'in consideration of the unanimous wish of the people.'

Renewal of charter, 1833.

Mysore protected, 1830.

Coorg annexed, 1834.

Lord Metcalfe, 1835-36.

Sir Charles (afterwards Lord) Metcalfe succeeded Lord

William as senior member of Council. His short term of office is memorable for the measure which his predecessor had initiated, but which he carried into execution, for giving entire liberty to the press. Public opinion in India, as well as the express wish of the Court of Directors at home, pointed to Metcalfe as the fittest person to carry out the policy of Bentinck, not provisionally, but as Governor-General for a full term.

Lord Auckland, 1836-42.

Party exigencies, however, led to the appointment of Lord Auckland. From this date commences a new era of war and conquest, which may be said to have lasted for twenty years. All looked peaceful until Lord Auckland, prompted by his evil genius, attempted to place Sháh Shujá upon the throne of Kábul; an attempt conducted with gross mismanagement, and ending in the annihilation of the British garrison placed in that city.

Afghánistán under the Duránís, 1747-1826.

For the first time since the days of the Sultáns of Ghazní and Ghor, Afghánistán had obtained a national king in 1747 in Ahmad Sháh Durání. This resolute soldier found his opportunity in the confusion which followed the death of the Persian conqueror, Nádir Sháh. Before his own decease in 1773, Ahmad Sháh had conquered a wide empire, from Herat to Pesháwar, and from Kashmír to Sind. His intervention on the field of Pánipat (1761) turned back the tide of Marhattá conquest, and replaced a Mughal Emperor on the throne of Delhi. But Ahmad Sháh never cared to settle down in India, and alternately kept state at his two national capitals of Kábul and Kandahár. The Duráni kings were prolific in children, who fought to the death with one another on each succession. At last, in 1826, Dost Muhammad, head of the powerful Barakzái family, succeeded in establishing himself as ruler of Kábul, with the title of Amír, while two fugitive brothers of the Duráni line were living under British protection at Ludhiána, on the Punjab frontier.

Our early dealings with Kábul, 1800-37.

The attention of the English Government had been directed to Afghán affairs ever since the time of Lord Wellesley, who feared that Zamán Sháh, then holding his court at Lahore (1800), might follow in the path of Ahmad Sháh, and overrun Hindustán. The growth of the powerful Síkh kingdom of Ranjít Sinh effectually dispelled any such alarms for the future. Subsequently, in 1809, while a French invasion of India was still a possibility to be guarded against, Mountstuart Elphinstone was sent by Lord Minto on a mission to Sháh Shujá to form a defensive alliance. Before the year expired, Sháh Shujá had been driven into exile, and a third brother, Mahmúd Sháh, was on the throne. In 1837, when the curtain rises upon the

drama of English interference in Afghánistán, the usurper Dost Muhammad, Barakzái, was firmly established at Kábul. His great ambition was to recover Pesháwar from the Síkhs. When, therefore, Captain Alexander Burnes arrived on a mission from Lord Auckland, with the ostensible object of opening trade, the Dost was willing to promise everything, if only he could get Pesháwar. But Lord Auckland had another and more important object in view. At this time the Russians were advancing rapidly in Central Asia, and a Persian army, not without Russian support, was besieging Herat, the traditional bulwark of Afghánistán on the east. A Russian envoy was at Kábul at the same time as Burnes. The latter was unable to satisfy the demands of Dost Muhammad in the matter of Pesháwar, and returned to India unsuccessful. Lord Auckland forthwith resolved upon the hazardous plan of placing a more subservient ruler upon the throne of Kábul. Sháh Shujá, one of the two exiles at Ludhiána, was selected for the purpose. At this time both the Punjab and Sind were independent kingdoms. Sind was the less powerful of the two, and accordingly a British army escorting Sháh Shujá made its way by that route into southern Afghánistán through the Bolán Pass. Kandahár surrendered, Ghazní was taken by storm, Dost Muhammad fled across the Hindu Kush, and Sháh Shujá was triumphantly led into the Bala Hissár at Kábul in August 1839. After one more brave struggle, Dost Muhammad surrendered, and was sent to Calcutta as a State prisoner.

Dost Muhammad, 1837.

Russian influence, 1837.

Sháh Shujá installed, 1839.

But although we could enthrone Sháh Shujá, we could not win for him the hearts of the Afgháns. To that nation he seemed a degenerate exile thrust back upon them by foreign arms. During two years, Afghánistán remained in the military occupation of the British. The catastrophe occurred in November 1841, when our Political Agent, Sir Alexander Burnes, was assassinated in the city of Kábul. The troops in the cantonments were under the command of General Elphinstone (not to be confounded with the able civilian and historian, the Hon. Mountstuart Elphinstone). Sir William Macnaghten was the political officer. Elphinstone, an old man, proved unequal to the responsibilities of the position. Macnaghten was treacherously murdered at an interview with the Afghán chief Akbar Khán, eldest son of Dost Muhammad. After lingering in their cantonments for two months, the British army set off in the depth of winter, under a fallacious guarantee from the Afghán leaders, to find its way back to India through the passes. When they started, they numbered 4000

Kábul occupied, 1839-41.

The winter retreat.

fighting men with 12,000 camp followers. A single survivor, Dr. Brydon, reached the friendly walls of Jalálábád, where Sale was gallantly holding out. The rest perished in the snowy defiles of Khurd, Kábul, and Jagdalak, from the knives and matchlocks of the Afgháns, or from the effects of cold. A few prisoners, chiefly women, children, and officers, were considerately treated by the orders of Akbar Khán.

Our garrison annihilated, 1842.

The first Afghán enterprise, begun in a spirit of aggression, and conducted amid dissensions and mismanagement, had ended in the disgrace of the British arms. The real loss, which amounted only to a single garrison, and cost fewer soldiers than many a victory, was magnified by the horrors of the winter march, and by the completeness of the annihilation. Within a month after the news reached Calcutta, Lord Auckland had been superseded by Lord Ellenborough, whose first impulse was to be satisfied with drawing off in safety the garrisons from Kandahár and Jalálábád. But bolder counsels were forced upon him. General Pollock, who was marching straight through the Punjab to relieve Sale, was allowed to penetrate to Kábul. General Nott, although ordered to withdraw from Afghánistán, resolved to take Kábul on the way. Lord Ellenborough gave his commands in well-chosen words, which would leave his Generals responsible for any disaster.[1] General Nott took that responsibility, and instead of retreating south-east to the Indus, boldly marched north to Kábul. After hard fighting, the two British forces, under Pollock and Nott, met at their common destination in September 1842. The great *bázár* at Kábul was blown up with gunpowder, to fix a stigma upon the city; the prisoners were recovered; and all marched back to India, leaving Dost Muhammad to take undisputed possession of his throne. The drama closed with a bombastic proclamation from Lord Ellenborough, who had caused the gates from the tomb of Mahmúd of Ghazní to be carried back as a memorial of 'Somnáth revenged.' The gates were a modern forgery; and their theatrical procession through the Punjab formed a vainglorious sequel to Lord Ellenborough's diffidence, while the fate of our armies hung in the balance.

The shock in England.

Earl of Ellenborough, 1842-44.

The army of retribution, 1842.

Lord Ellenborough, who loved military pomp, had his tastes gratified by two more wars. In 1843, the Muhammadan rulers of Sind, known as the *meers* or Amírs, whose chief fault was that they would not surrender their independence,

Sind war, 1843.

[1] *The Indian Administration of Lord Ellenborough, being his Correspondence.* Edited by Lord Colchester, 1874. See Lord Ellenborough's town Letters, pp. 29, 30, 39, etc.

were crushed by Sir Charles Napier. The victory of Miáni, in which 3000 British troops defeated 20,000 Baluchís, is one of the brilliant feats of arms in Anglo-Indian history. But valid reasons can scarcely be found for the annexation of the country. In the same year, a disputed succession at Gwalior, fomented by feminine intrigue, resulted in an outbreak of the overgrown army which the Sindhia family kept up. Peace was restored by the battles of Mahárájpur and Punneah, at the former of which Lord Ellenborough was present in person.

Gwalior outbreak, 1843.

In 1844, Lord Ellenborough was recalled by the Court of Directors, who differed from him on points of administration, disliked his theatrical display, and distrusted his erratic genius. He was succeeded by Sir Henry (afterwards Lord) Hardinge, who had served through the Peninsular war, and lost a hand at Ligny. It was felt on all sides that a trial of strength between the British and the remaining Hindu power in India, the great Síkh nation, drew near.

Lord Hardinge, 1844-48.

The Síkhs were not a nationality like the Marhattás, but a religious sect bound together by the additional tie of military discipline. They trace their origin to Nának Sháh, a pious Hindu reformer, born near Lahore in 1469, before the ascendency of either Mughals or Portuguese in India. Nának, like other zealous preachers of his time, preached the abolition of caste, the unity of the Godhead, and the obligation of leading a pure life.[1] From Nának, ten *gurus* or apostles are traced down to Govind Sinh in 1708, with whom the succession stopped. Cruelly persecuted by the ruling Muhammadans, almost exterminated under the miserable successors of Aurangzeb,[2] the Síkh martyrs clung to their faith with unflinching zeal. At last the downfall of the Mughal Empire transformed the sect into a territorial power. It was the only political organization remaining in the Punjab. The Síkhs in the north, and the Marhattás in Southern and Central India, thus became the two great Hindu powers who partitioned the Mughal Empire. Even before the rise of Ranjít Sinh, offshoots from the Síkh *misls* or confederacies, each led by its elected *sardár*, had carved out for themselves feudal principalities along the banks of the Sutlej, some of which endure to the present day. Ranjít Sinh, the

The Síkhs, 1469.

Nának Sháh.

Ranjít Sinh, 1780-1839.

[1] See *ante*, p. 312. The life of Nának and growth of his sect are summarized in articles AMRITSAR, *Imperial Gazetteer*, vol. i. p. 180, and PUNJAB, vol. vii. pp. 419-421. The religious aspects of the Síkhs are fully treated in Wilson's *Religion of the Hindus*, vol. i. pp. 267-275.

founder of the Síkh kingdom, was born in 1780. In his twentieth year he obtained the appointment of Governor of Lahore from the Afghán King, and formed the project of basing his personal rule upon the religious fanaticism of his Síkh countrymen. He organized the *khálsá*, or 'the liberated,' into an army under European officers, which for steadiness and religious fervour has had no parallel since the 'Ironsides' of Cromwell. From Lahore, as his capital, he extended his conquests south to Múltán, west to Pesháwar, and north to Kashmír. On the east side alone, he was hemmed in by the Sutlej, up to which river the authority of the British Government had advanced in 1804. Till his death, in 1839, Ranjít Sinh was ever loyal to the engagements which he had entered into with Metcalfe in 1809. But he left no son capable of wielding his sceptre. Lahore was torn by dissensions between rival generals, ministers, and queens. The only strong power was the army of the *khálsá*, which, since our disaster in Afghánistán, burned to measure its strength with the British sepoys. The French or European Generals, Avitabile and Court, were foolishly ousted, and the supreme military command was vested in a series of *pancháyats* or elective committees of five.

His kingdom.

Its dissensions.

First Síkh war, 1845.

In 1845, the Síkh army, numbering 60,000 men with 150 guns, crossed the Sutlej and invaded British territory. Sir Hugh Gough, the Commander-in-Chief, together with the Governor-General, hurried up to the frontier. Within three weeks, four pitched battles were fought, at Múdki, Firozshahr, Áliwál, and Sobráon. The British loss on each occasion was heavy; but by the last victory, the Síkhs were fairly driven back into the Sutlej, and Lahore surrendered to the British. By the terms of peace then dictated, the infant son of Ranjít, Dhulíp Sinh, was recognised as Rájá; the Jalandhar Doáb, or tract between the Sutlej and the Rávi, was annexed; the Síkh army was limited to a specified number; Major Henry Lawrence was appointed to be Resident at Lahore; and a British force sent to garrison the Punjab for a period of eight years. Sir H. Hardinge received a peerage, and returned to England in 1848.

Dhulíp Sinh, 1845.

Earl of Dalhousie, 1848-56.

Lord Dalhousie succeeded. The eight years' rule of this greatest of Indian proconsuls (1848-56) left more conspicuous results than that of any Governor-General since Clive. A high-minded statesman, of a most sensitive conscience, and earnestly desiring peace, Lord Dalhousie found himself forced against his will to fight two wars, and to

embark on a policy of annexation. His campaigns in the Punjab and in Burma ended in large acquisitions of territory; while Nágpur, Oudh, and several minor States also came under British rule. But Dalhousie's deepest interest lay in the advancement of the moral and material condition of the country. The system of administration carried out in the conquered Punjab, by the two Lawrences and their assistants, is probably the most successful piece of difficult work ever accomplished by Englishmen. British Burma has prospered under our rule not less than the Punjab. In both cases, Lord Dalhousie himself laid the foundations of our administrative success, and deserves a large share of the credit. No branch of the administration escaped his reforming hand. He founded the Public Works Department, with a view to creating the network of roads and canals which now cover India. He opened the Ganges Canal, still the largest work of the kind in the country; and he turned the sod of the first Indian railway. He promoted steam communication with England *viâ* the Red Sea, and introduced cheap postage and the electric telegraph. It is Lord Dalhousie's misfortune that these benefits are too often forgotten in the recollections of the Mutiny, which followed his policy of annexation, after the firm hand which had remodelled British India was withdrawn.

His administrative reforms.

Lord Dalhousie had not been six months in India before the second Síkh war broke out. Two British officers were treacherously assassinated at Múltán. Unfortunately, Henry Lawrence was at home on sick leave. The British army was not ready to act in the hot weather; and, despite the single-handed exertions of Lieutenant (afterwards Sir Herbert) Edwardes, this outbreak of fanaticism led to a general rising. The *khálsá* army again came together, and once more fought on even terms with the British. On the fatal field of Chilián-wála,[1] which patriotism prefers to call a drawn battle, the British lost 2400 officers and men, besides four guns and the colours of three regiments (13th January 1849). Before reinforcements could come out from England, bringing Sir Charles Napier as Commander-in-Chief, Lord Gough had restored his reputation by the crowning victory of Gujrát, which absolutely destroyed the Síkh army. Múltán had previously fallen; and the Afghán horse under Dost Muhammad, who had forgotten their hereditary antipathy to the Síkhs in their greater hatred of the British name, were chased back with ignominy to their

Second Sikh war, 1848-49.

Chilián-wála, 1849.

Gujrát victory.

[1] See articles CHILIANWALA, *Imperial Gazetteer*, vol. ii. p. 434; and GUJRAT, vol. iii. pp. 463-467.

native hills. The Punjab, annexed by proclamation on the 29th March 1849,[1] became a British Province—a virgin field for the administrative talents of Dalhousie and the two Lawrences. Mahárájá Dhulíp Sinh received an allowance of £58,000 a year, on which he now lives as an English country gentleman in Norfolk.

The Punjab annexed, 1849. Its pacification.

The first step in the pacification of the Punjab[2] was a general disarmament, which resulted in the delivery of no fewer than 120,000 weapons of various kinds. Then followed a settlement of the land tax, village by village, at an assessment much below that to which it had been raised by Síkh exactions; and the introduction of a loose but equitable code of civil and criminal procedure. Roads and canals were laid out by Colonel Robert Napier (afterwards Lord Napier of Magdala). The security of British peace, and the personal influence of British officers, inaugurated a new era of prosperity, which was felt to the farthest corners of the Province. It thus happened that, when the Mutiny broke out in 1857, the Punjab remained not only quiet, but loyal.

Second Burmese war, 1852.

The second Burmese war, in 1852, arose out of the ill-treatment of some European merchants at Rangoon, and the insults offered to the captain of a frigate who had been sent to remonstrate.[3] The whole valley of the Irawadi, from Rangoon to Prome, was occupied in a few months; and as the King of Ava refused to treat, it was annexed by proclamation on the 20th December 1852, under the name of Pegu, to the Provinces of Arakan and Tenasserim, which we had acquired in 1826. Since annexation, the inhabitants of Rangoon have multiplied tenfold in number. The trade of the port, which in four years after annexation (1857-58) amounted to £2,131,055, had increased in 1877-78 to £8,192,025.[4]

British Burma annexed, 1852.

Its prosperity under our rule.

The towns and rural parts have alike prospered. Before 1826, Amherst District was the scene of perpetual warfare between the Kings of Siam and Pegu, and was stripped of inhabitants. In February 1827, a Talaing chief with 10,000 followers settled in the neighbourhood of Maulmain; and

[1] In terms of the agreement with Mahárájá Dhulíp Sinh, of same date.—Aitchison's *Treaties and Engagements*, vol. vi. p. 47 (ed. 1870).

[2] For the annexation and administrative history of the Punjab, see *Imperial Gazetteer*, vol. vii. pp. 422, 423, and 427-433.

[3] For further details, see article BURMA, *Imperial Gazetteer*, vol. ii. p. 305; and for subsequent administration, pp. 283-291.

[4] See article RANGOON, *Imperial Gazetteer*, vol. viii. pp. 14, 15. For growth of trade in other Burmese ports, see also article AKYAB, *Imperial Gazetteer*, vol. i. p. 124.

after a few years, a further influx of 20,000 immigrants took place. In 1855, the population of Amherst District amounted to 83,146 souls; in 1860, to 130,953; and in 1875, to 275,432. Or, to take the case of a seaport,—in 1826, when we occupied the Province, Akyab was a poor fishing village. By 1830, it had developed into a little town with a trade valued at £7000. In 1879, the trade exceeded 2 millions sterling; so that the trade of Akyab has multiplied itself close on three hundred-fold in fifty years.

The Feudatory States.

Lord Dalhousie's dealings with the Feudatory States of India revealed the whole nature of the man. That rulers only exist for the good of the ruled, was his supreme axiom of government, of which he gave a conspicuous example in his own daily life. That British administration was better for the people than native rule, followed from this axiom. He was thus led to regard native chiefs from somewhat the same point of view as the Scotch regarded the hereditary jurisdictions after 1745, namely, as mischievous anomalies, to be abolished by every fair means. Good faith must be kept with rulers on the throne, and with their legitimate heirs. But no false sentiment should preserve dynasties which had forfeited our sympathies by generations of misrule, nor prolong those that had no natural successor. The 'doctrine of lapse' was the practical application of these principles, complicated by the Indian practice of adoption. It has never been doubted that, according to Hindu private law, an adopted son entirely fills the place of a natural son, whether to perform the religious obsequies of his father or to inherit his property. In all respects he continues the *persona* of the deceased. But it was argued that, both as a matter of historical fact and as one of political expediency, the succession to a throne stood upon a different footing. The paramount power could not recognise such a right, which might be used as a fraud to hand over the happiness of millions to a base-born impostor. Here came in Lord Dalhousie's maxim of 'the good of the governed.' In his mind, benefits to be conferred through British administration weighed heavier than a superstitious and often fraudulent fiction of inheritance.

Hindu doctrine of adoption.

Lapsed States.

Sátára, 1849.

The first State to escheat to the British Government in accordance with these principles was Sátára, which had been reconstituted by Lord Hastings on the downfall of the Peshwá in 1818. The Rájá of Sátára, the last direct representative of Sivají, died without a male heir in 1848, and his deathbed adoption was set aside (1849). In the same year, the Rájput State

of Karauli was saved by the Court of Directors, who drew a fine distinction between a dependent principality and a protected ally. In 1853, Jhánsi suffered the same fate as Sátára. But the most conspicuous application of the doctrine of lapse was the case of Nágpur. The last of the Marhattá Bhonslás, a dynasty older than the British Government itself, died without a son, natural or adopted, in 1853. His territories were annexed, and became the Central Provinces. That year also saw British administration extended to the Berars, or the Assigned Districts, which the Nizám of Haidarábád was induced to hand over as a territorial guarantee for the subsidies which he perpetually kept in arrear. The relics of three other dynasties also passed away in 1853, though without any attendant accretion to British territory. In the extreme south, the titular Nawáb of the Karnatic and the titular Rájá of Tanjore both died without heirs. Their rank and their pensions died with them, though compassionate allowances were continued to their families. In the north of India, Báji Ráo, the ex-Peshwá who had been dethroned in 1818, lived on till 1853 in the enjoyment of his annual pension of £80,000. His adopted son, Nána Sáhib, inherited his accumulated savings, but could obtain no further recognition.

Jhánsí.

Nágpur, 1853.

Berars handed over, 1853.

Annexation of Oudh, 1856.

Lord Dalhousie annexed the Province of Oudh on different grounds. Ever since the Nawáb Wazír, Shujá-ud-Daulá, received back his forfeited territories from the hands of Lord Clive in 1765, the existence of his dynasty had depended on the protection of British bayonets.[1] Guarded alike from foreign invasion and from domestic rebellion, the long line of Nawábs had sunk into private debauchees and public oppressors. Their one virtue was steady loyalty to the British Government. The fertile districts between the Ganges and the Gogra, which now support a denser population than any rural area of the same size on this globe, had been groaning for generations under an anarchy for which each British Governor-General felt himself in part responsible. Warning after warning had been given to the Nawábs (who had assumed the title of Sháh or King since 1819) that they must put their house in order. What the benevolent Bentinck and the soldierly Hardinge had only threatened, was reserved for Lord Dalhousie, who united honesty of purpose with stern decision of character, to perform. He laid the whole case before the Court of Directors, who, after long and painful hesitation, resolved on

Lord Dalhousie's view of the measure.

[1] For the history of Oudh since 1765, and the misrule which compelled its annexation, see article OUDH, *Imperial Gazetteer*, vol. vii. pp. 220-226.

annexation. Lord Dalhousie, then on the eve of retiring, felt that it would be unfair to leave the perilous task to his successor in the first moments of his rule. The tardy decision of the Court of Directors left him, however, only a few weeks to carry out the work. But he solemnly believed that work to be his duty to the people of Oudh. 'With this feeling on my mind,' he wrote privately, 'and in humble reliance on the blessing of the Almighty (for millions of His creatures will draw freedom and happiness from the change), I approach the execution of this duty, gravely and not without solicitude, but calmly and altogether without doubt.'

At the commencement of 1856, the last year of his rule, he issued orders to General (afterwards Sir James) Outram, then Resident at the Court of Lucknow, to assume the direct administration of Oudh, on the ground that 'the British Government would be guilty in the sight of God and man if it were any longer to aid in sustaining by its countenance an administration fraught with suffering to millions.' The proclamation was issued on the 13th February 1856. The king, Wájid Alí, bowed to irresistible force, although he refused to recognise the justice of his deposition. After a mission to England, by way of protest and appeal, he settled down in the pleasant suburb of Garden Reach near Calcutta, where he still lives (1881) in the enjoyment of a pension of £120,000 a year. Oudh was thus annexed without a blow. But this measure, on which Lord Dalhousie looked back with the proudest sense of rectitude, was perhaps the one act of his rule that most alarmed native public opinion.

Grounds of annexation.

The Marquis of Dalhousie resigned office in March 1856, being then only forty-four years of age; but he carried home with him the seeds of a lingering illness, which resulted in his death in 1860. Excepting Cornwallis, he was the first, though by no means the last, of English statesmen who have fallen victims to their devotion to India's needs. Lord Dalhousie completed the fabric of British rule in India. The Empire as mapped out by Lord Wellesley and Lord Hastings, during the first quarter of the century, had received the addition of Sind in 1843. The Marquis of Dalhousie finally filled in the wide spaces covered by Oudh, the Central Provinces, and smaller States within India, together with the great outlying territories of the Punjab on the North-Western Frontier, and the richest part of British Burma beyond the sea.

Lord Dalhousie's death, 1860.

His work in India.

The great Governor-General was succeeded by his friend Lord Canning, who, at the farewell banquet in England given

Earl Canning, 1856-62.

to him by the Court of Directors, uttered these prophetic words, 'I wish for a peaceful term of office. But I cannot forget that in the sky of India, serene as it is, a small cloud may arise, no larger than a man's hand, but which, growing larger and larger, may at last threaten to burst and overwhelm us with ruin.' In the following year, the Sepoys of the Bengal army mutinied, and all the valley of the Ganges from Patná to Delhi rose in rebellion.

The Sepoy Mutiny, 1857.

Its causes.

The various motives assigned for the Mutiny appear inadequate to the European mind. The truth seems to be that native opinion throughout India was in a ferment, predisposing men to believe the wildest stories, and to rush into action in a paroxysm of terror. Panic acts on an oriental population like drink among a European mob. The annexation policy of Lord Dalhousie, although dictated by the most enlightened considerations, was distasteful to the native mind. The spread of education, the appearance of the steam-engine and the telegraph wire, seemed at the same moment to reveal a deep plan to substitute an English for an Indian civilisation. The Bengal sepoys, especially, thought that they could see further than the rest of their countrymen. Most of them were Hindus of high caste; many of them were recruited from Oudh. They regarded our reforms on Western lines as attacks on their own nationality, and they knew at first hand what annexation meant. They believed it was by their prowess that the Punjab had been conquered, and that all India was held. The numerous dethroned princes, or their heirs and widows, were the first to learn and to take advantage of this spirit of disaffection and panic. They had heard of the Crimean war, and were told that Russia was the perpetual enemy of England. Our munificent pensions had supplied the funds with which they could buy the aid of skilful intriguers. They had much to gain, and little to lose, by a revolution.

The 'greased cartridges, 1857.

In this critical state of affairs, of which the Government had no official knowledge, a rumour ran through the cantonments that the cartridges of the Bengal army had been greased with the fat of pigs—animals unclean alike to Hindu and Muhammadan. No assurances could quiet the minds of the sepoys. Fires occurred nightly in the native lines; officers were insulted by their men; confidence was gone, and only the form of discipline remained.

The events which followed form contemporary annals. Any narrative of them beyond the barest summary would involve the criticism of measures on which history has not yet pro-

nounced her calm verdict, and lead to personal praise or blame of still living men.[1] Each episode of the Mutiny is treated in my account of the town or district where it occurred. But it may not be out of place to mention here, that the outbreak of the storm found the native regiments denuded of many of their best officers. The administration of the great empire, to which Dalhousie put the corner-stone, required a larger staff than the civil service could supply. The practice of selecting able military men for civil posts, which had long existed, received a sudden and vast development. Oudh, the Punjab, the Central Provinces, British Burma, were administered to a large extent by picked officers from the Company's regiments. Good and skilful commanders remained; but the native army had nevertheless been drained of many of its brightest intellects and firmest wills at the very crisis of its fate.

The army drained of its talent.

On the afternoon of Sunday, 10th May 1857, the Sepoys at Meerut (Mírath) broke into open mutiny.[2] They burst into the jail, and rushed in a wild torrent through the cantonments, cutting down every European whom they met. They then streamed off to the neighbouring city of Delhi, to stir up the native garrison and the criminal population of that great city, and to place themselves under the authority of the discrowned Mughal Emperor. Meerut was the largest military station in Northern India, with a strong European garrison of foot, horse, and guns, sufficient to overwhelm the mutineers before ever they reached Delhi. But as the Sepoys acted in irrational haste, so the British officers, in but too many cases, acted with equally irrational indecision. The news of the outbreak was telegraphed to Delhi, and nothing more was done that night. At the moment when one strong will might have saved India, no soldier in authority at Meerut seemed able to think or act. The next morning the Muhammadans of Delhi rose, and all that the Europeans there could do was to blow up the magazine.

Outbreak of the Mutiny, May 1857.

At Meerut.

At Delhi.

A rallying centre and a traditional name were thus given to the revolt, which forthwith spread like wild-fire through the North-Western Provinces and Oudh down into Lower Bengal. The same narrative must suffice for all the outbreaks, although each episode has its own story of sadness and devotion. The

[1] The Mutiny of 1857 has already a copious literature. Sir John Kaye's *History of the Sepoy War* (3 vols.), with its able and eloquent continuation by Colonel Malleson, C.S.I., as *The History of the Indian Mutiny* (3 vols.), forms the standard work.

Spread of the Mutiny summer of 1857.

Sepoys rose on their officers, usually without warning, sometimes after protestations of fidelity. The Europeans, or persons of Christian faith, were massacred; occasionally, also, the women and children. The jail was broken open, the treasury plundered, and the mutineers marched off to some centre of revolt, to join in what had now become a national war. Only in the Punjab were the Sepoys anticipated by stern measures of represssion and disarmament, carried out by Sir John Lawrence and his lieutenants, among whom Edwardes and Nicholson stand conspicuous. The Síkh population never wavered. Crowds of willing recruits came down from the Afghán hills. And thus the Punjab, instead of being itself a source of danger, was able to furnish a portion of its own garrison for the siege of Delhi. In Lower Bengal most of the Sepoys mutinied, and then dispersed in different directions. The native armies of Madras and Bombay remained true to their colours. In Central India, the contingents of many of the great chiefs sooner or later joined the rebels, but the Muhammadan State of Haidarábád was kept loyal by the authority of its able minister Sir Sálar Jang.

Loyalty of the Síkhs.

Cawnpore.

The main interest of the Sepoy war gathers round the three cities of Cawnpore, Lucknow, and Delhi. The cantonment at Cawnpore contained one of the great native garrisons of India. At Bithúr, not far off, was the palace of Dundhu Panth, the heir of the last Peshwá, who had inherited his savings, but failed to procure a continuance of his pension; and whose more familiar name of Nána Sáhib will ever be handed down to infamy. At first the Nána was profuse in his professions of loyalty, but when the Sepoys mutinied on the 6th June, he put himself at their head, and was proclaimed Peshwá of the Marhattás. The Europeans at Cawnpore, numbering more women and children than fighting men, shut themselves up in an ill-chosen hasty entrenchment, where they heroically bore a siege for nineteen days under the sun of a tropical June. Every one had courage and endurance to suffer or to die; but the directing mind was again absent. On the 27th June, trusting to a safe-conduct from the Nána as far as Allahábád, they surrendered, and to the number of 450, embarked in boats on the Ganges. Forthwith a murderous fire was opened upon them from the river bank. Only a single boat escaped, and but four men, who swam across to the protection of a friendly Rájá, ultimately survived to tell the tale. The rest of the men were massacred on the spot. The women and children, numbering 125, were reserved for the same fate on

Nána Sáhib.

Massacre of Cawnpore.

the 15th July, when the avenging army of Havelock was at hand.[1]

Lucknow. Sir Henry Lawrence.

Sir Henry Lawrence, the Chief Commissioner of Oudh, had foreseen the storm. He fortified and provisioned the Residency at Lucknow, and thither he retired with all the European inhabitants and a weak British regiment on 2nd July. Two days later, he was mortally wounded by a shell. But the clear head was here in authority. Lawrence had deliberately chosen his position, and the little garrison held out under unparalleled hardships and against enormous odds, until relieved by Havelock and Outram on 25th September. But the relieving force was itself invested by fresh swarms of rebels; and it was not till November that Sir Colin Campbell (afterwards Lord Clyde) cut his way into Lucknow, and effected the final deliverance of the garrison[2] (16th November 1857). Our troops then withdrew to more urgent work, and did not finally reoccupy Lucknow till March 1858.

Siege of Delhi, June to Sept. 1857.

The siege of Delhi began on 8th June, just one month after the original outbreak at Meerut. Siege in the proper sense of the word it was not; for the British army, encamped on the historic 'ridge,' never exceeded 8000 men, while the rebels within the walls were more than 30,000 strong. In the middle of August, Nicholson arrived with a reinforcement from the Punjab; but his own inspiring presence was even more valuable than the reinforcement he brought. On 14th September the assault was delivered, and after six days' desperate fighting in the streets, Delhi was again won. Nicholson fell at the head of the storming party. Hodson, the intrepid leader of a corps of irregular horse, hunted down next day the old Mughal Emperor, Bahádur Sháh, and his sons. The Emperor was afterwards sent a State prisoner to Rangoon, where he lived till 1862. As the mob pressed in on the guard around the Emperor's sons, near Delhi, Hodson found it necessary to shoot down the princes (who had been captured unconditionally) with his own hand.[3]

Nicholson.

Oudh reduced.

After the fall of Delhi and the final relief of Lucknow, the war loses its dramatic interest, although fighting went on in various parts of the country for eighteen months longer. The population of Oudh and Rohilkhand, stimulated by the presence of the Begam of Oudh, the Nawáb of Bareilly, and Nána Sáhib himself, had joined the mutinous Sepoys *en masse.*

[1] See article CAWNPORE, *Imperial Gazetteer*, vol. ii. pp. 341-342, 348-349.
[2] See article LUCKNOW, *Imperial Gazetteer*, vol. vi. pp. 90-93.
[3] See article DELHI CITY, *Imperial Gazetteer*, vol. iii. pp. 91, 92.

In this quarter of India alone, it was the revolt of a people rather than the mutiny of an army that had to be quelled.

Lord Clyde.

Sir Colin Campbell (afterwards Lord Clyde) conducted the campaign in Oudh, which lasted through two cold seasons.[1] Valuable assistance was lent by Sir Jang Bahádur of Nepál, at the head of his gallant Gúrkhas. Town after town was occupied, fort after fort was stormed, until the last gun had been recaptured, and the last fugitive had been chased across the frontier by January 1859.

Sir Hugh Rose.

In the meanwhile, Sir Hugh Rose (afterwards Lord Strathnairn), with another army from Bombay, was conducting an equally brilliant campaign in Central India. His most formidable antagonists were the disinherited Ránί or Princess of Jhánsi, and Tántia Topí, whose military talent had previously inspired Nána Sáhib with all the capacity for resistance that he ever displayed. The Princess died fighting bravely at the head of her troops in June 1858.[2] Tantiá Topí, after doubling backwards and forwards through Central India, was at last betrayed and run down in April 1859.

Renewals of the Company's Charter, 1813-15.

The Company's charter had been granted from time to time for periods of twenty years, and each renewal formed an opportunity for a national inquest into the management of India. The Parliamentary Inquiry of 1813 abolished the Company's monopoly of Indian trade, and compelled it to direct its energies in India to the good government of the people. The Charter Act of 1833 did away with its remaining Chinese trade, and opened up the Government of India to the natives, irrespective of caste, creed, or race. The Act of 1853

Its privileges curtailed.

abolished the patronage by which the Company filled up the higher branches of its civil service; laid down the principle that the administration of India was too national a concern to be left to the chances of benevolent nepotism; and that England's representatives in India must be chosen openly, and without favour, from the youth of England.

Downfall of the Company, 1858.

The Mutiny sealed the fate of the East India Company, after a life of more than two and a half centuries. The original Company received its charter of incorporation from Elizabeth in 1600. Its political powers, and the constitution of the Indian Government, were derived from the Regulating Act of 1773, passed by the ministry of Lord North. By that statute the Governor of Bengal was raised to the rank of Governor-General; and, in conjunction with his Council of four other members, he was entrusted with the duty of

superintending and controlling the Governments of Madras and Bombay, so far as regarded questions of peace and war: a Supreme Court of Judicature was appointed at Calcutta, to which the judges were appointed by the Crown: and a power of making rules, ordinances, and regulations was conferred upon the Governor-General and his Council. Next came the India Bill of Pitt (1784), which founded the Board of Control, strengthened the supremacy of Bengal over the other Presidencies, and first authorized the historic phrase, 'Governor-General-in-Council.' The Act which abolished the Company's Chinese trade in 1833, introduced successive reforms into the constitution of the Indian Government, added to the Council a new (legal) member who might not be chosen from among the Company's servants, and was entitled to be present only at meetings for making Laws and Regulations; it accorded the authority of Acts of Parliament to the Laws and Regulations so made, subject to the disallowance of the Court of Directors; it appointed a Law Commission; and it gave the Governor-General-in-Council a control over the other Presidencies, in all points relating to the civil or military administration. The Charter of the Company was renewed for the last time in 1853, not for a definite period of years, but only for so long as Parliament should see fit. On this occasion the number of Directors was reduced, and, as above stated, their patronage as regards appointments to the civil service was taken away, to make room for the principle of open competition.

Its history epitomized, 1600-1858.

Act of 1784.

Act of 1833.

The Act for the better government of India (1858), which finally transferred the entire administration from the Company to the Crown, was not passed without an eloquent protest from the Directors, nor without acrimonious party discussion in Parliament. It enacts that India shall be governed by, and in the name of, the Queen of England through one of her principal Secretaries of State, assisted by a Council of fifteen members. The Governor-General received the new title of Viceroy. The European troops of the Company, numbering about 24,000 officers and men, were amalgamated with the royal service, and the Indian navy was abolished. By the Indian Councils Act (1861), the Governor-General's Council, and also the Councils at Madras and Bombay, were augmented by the addition of non-official members, either natives or Europeans, for legislative purposes only; and by another Act passed in the same year, High Courts of Judicature were

India transferred to the Crown, 1858.

'The Viceroy.'

India under the Crown, 1858-62.

It fell to the lot of Lord Canning both to suppress the Mutiny, and to introduce the peaceful revolution which followed. It suffices to say that he preserved his equanimity unruffled in the darkest hours of peril, and that the strict impartiality of his conduct incurred alternate praise and blame from partisans of both sides. The epithet then scornfully applied to him of 'Clemency' Canning, is now remembered only to his honour.

Queen's proclamation, 1st Nov. 1858.

On 1st November 1858, at a grand *darbár* held at Allahábád, he sent forth the Royal Proclamation, which announced that the Queen had assumed the government of India. This document, which is, in the truest and noblest sense, the Magna Charta of the Indian people, proclaimed in eloquent words, the policy of justice and religious toleration; and granted an amnesty to all except those who had directly taken part in the murder of British subjects. Peace was proclaimed throughout India on the 8th July 1859. In the following cold weather, Lord Canning made a viceregal progress through the northern Provinces, to receive the homage of loyal princes and chiefs, and to guarantee to them the right of adoption. The suppression of the Mutiny increased the debt of India by about 40 millions sterling, and the military changes which ensued augmented the annual expenditure by about 10 millions. To grapple with this deficit, a distinguished political economist and parliamentary financier, Mr. James Wilson, was sent out from England as financial member of Council. He reorganized the customs system, imposed an income tax and a licence duty, and created a State paper currency. He died in the midst of his splendid task; but his name still lives as that of the first and greatest finance minister of India. The Penal Code, originally drawn up by Macaulay in 1837, passed into law in 1860; together with Codes of Civil and Criminal Procedure in 1861.[1]

Financial reforms.

Legal reforms.

Lord Elgin, 1862-63.

Lord Canning left India in March 1862, and died before he had been a month in England. His successor, Lord Elgin, only lived till November 1863. He expired at the Himálayan station of Dharmsálá, and there he lies buried.

Lord Lawrence, 1864-69.

He was succeeded by Sir John Lawrence, the saviour of the Punjab. The chief incidents of his rule were the Bhután war, followed by the annexation of the Dwárs in 1864, and the terrible Orissa famine of 1866. In a later famine in Bundelkhand and Upper Hindustán in 1868-69, Lord Lawrence laid down the principle, for the first time in Indian history, that the officers of the Government would be held personally responsible

[1] On the subject of Anglo-Indian Codification, see *ante*, pp. 228, 229.

for taking every possible means to avert death by starvation. An inquiry was conducted into the status of the peasantry of Oudh, and an Act was passed with a view to securing them in their customary rights. After a period of fratricidal war among the sons of Dost Muhammad, the Afghán territories were concentrated in the hands of Sher Alí, and the latter was acknowledged as Amír by Lord Lawrence. A commercial crisis took place in 1866, which seriously threatened the young tea industry in Bengal, and caused widespread ruin in Bombay. Sir John Lawrence retired in January 1869, after having passed through every grade of Indian service, from an assistant magistracy to the viceroyalty. On his return to England, he was raised to the peerage. He died in 1879, and lies in Westminster Abbey.

Lord Mayo, 1869-72.

Ambálá *darbár*, 1869.

Lord Mayo succeeded Lord Lawrence in 1869, and urged on the material progress of India. The Ambálá *darbár*, at which Sher Alí was recognised as Amír of Afghánistán, although in one sense the completion of what Lord Lawrence had begun, owed its success to Lord Mayo (1869). The visit of His Royal Highness the Duke of Edinburgh in 1869-70 gave great pleasure to the natives of India, and introduced a tone of personal loyalty into our relations with the feudatory princes.

Lord Mayo's reforms.

Provincial finance.

Lord Mayo reformed several of the great branches of the administration, created an Agricultural Department, and introduced the system of Provincial Finance. The impulse to local self-government given by the last measure has done much, and will do more, to develop and husband the revenues of India, to quicken the sense of responsibility among the English administrators, and to awaken political life among the people. Lord Mayo also laid the foundation for the reform of the Salt Duties.

Customs-lines abolished.

He thus enabled his successors to abolish the old pernicious customs-lines which walled off Province from Province, and strangled the trade between British India and the Feudatory States. He developed the material resources of the country by an immense extension of roads, railways, and canals. He carried out the beneficent system of Public Works which Lord Dalhousie had inaugurated. Lord Mayo's splendid vigour defied alike the climate and the vast tasks which he imposed on himself. He anxiously and laboriously studied with his own eyes the wants of the farthest Provinces of the empire.

Lord Mayo's death, 1872.

But his life of noble usefulness was cut short by the hand of an assassin, in the convict settlement of the Andaman Islands, in 1872.

His successor was Lord Northbrook, whose ability found

Lord Northbrook, 1872-76.

pre-eminent scope in the department of finance.[1] During his viceroyalty, a famine which threatened Lower Bengal in 1874 was successfully obviated by a vast organization of State relief; the Marhattá Gáekwár of Baroda was dethroned in 1875 for misgovernment and disloyalty, but his dominions were continued to a nominated child of the family; and the Prince of Wales made a tour through the country in the cold weather of 1875-76. The presence of His Royal Highness evoked a passionate burst of loyalty never before known in the annals of British India. The feudatory chiefs and ruling houses of India felt for the first time that they were incorporated into the Empire of an ancient and a splendid dynasty. Lord Lytton followed Lord Northbrook in 1876. On January 1, 1877, Queen Victoria was proclaimed Empress of India at a *darbár* of unparalleled magnificence, held on the historic 'ridge' overlooking the ancient Mughal capital, Delhi. But while the princes and high officials of the country were flocking to this gorgeous scene, the shadow of famine was darkening over Southern India. Both the monsoons of 1876 had failed to bring their due supply of rain, and the season of 1877 was little better. This long-continued drought stretched from the Deccan to Cape Comorin, and subsequently invaded Northern India, causing a famine more widespread than any similar calamity since 1770. Despite vast importations of grain by sea and rail, despite the most strenuous exertions of the Government, which incurred a total expenditure on this account of 11 millions sterling, the loss of life from actual starvation and its attendant train of diseases was lamentable. The deaths from want of food, and from the diseases incident to a famine-stricken population, were estimated at $5\frac{1}{4}$ millions.

Lord Lytton, 1876-80.

The 'Empress of India.'

Famine of 1877-78.

Afghán affairs, 1878-81.

In the autumn of 1878, the affairs of Afghánistán again forced themselves into notice. Sher Alí, the Amír, who had been hospitably entertained by Lord Mayo, was found to be favouring Russian intrigues. A British embassy was refused admittance to the country, while a Russian mission was received with honour. This led to a declaration of war. British armies advanced by three routes—the Khaibar (Khyber), the Kuram, and the Bolán; and without much

[1] It would be unsuitable for an officer of the Government to attempt anything beyond the barest summary of events in India since the death of Lord Mayo in 1872. The three Viceroys who have ruled during the past nine years are, happily, still living; their policy forms the subject of keen contemporary criticism; and the administrators, soldiers, and diplomatists who gave effect to that policy still hold possession of the scene.

opposition occupied the inner entrances of the passes. Sher Alí fled to Afghán Turkistán, and there died. A treaty was entered into with his son, Yákub Khán, at Gandamak, by which the British frontier was advanced to the crests or farther sides of the passes, and a British officer was admitted to reside at Kábul. Within a few months the British Resident, Sir Louis Cavagnari, was treacherously attacked and massacred together with his escort, and a second war became necessary. Yákub Khán abdicated, and was deported to India; Kábul was occupied in force, and an Afghán chief of the Durání line was placed in the government of Kandahár with the title of Wálí.

At this crisis of affairs, a general election in England resulted in a defeat of the Conservative Ministry. Lord Lytton resigned simultaneously with the Home Government, and the Marquis of Ripon was nominated as his successor in April 1880. Since then, a British brigade received a defeat between Kandahár and the Helmand river from the Herát troops of Ayúb Khán, a defeat promptly and completely retrieved by the brilliant march of General Sir Frederick Roberts from Kábul to Kandahár, and by the total route of Ayúb Khán's army on 1st September 1880. Abdurrahman Khán, the eldest male representative of the stock of Dost Muhammad, has been recognised by us as Amír. The British forces have retired from Kábul, leaving him, as our friend, in possession of the capital. The withdrawal of our troops from Kandahár has also been decided upon (March 1881). The Native State of Mysore was replaced under its hereditary dynasty on the 25th March 1881.

Marquis of Ripon, 1880-81.

BRITISH ADMINISTRATION OF INDIA.—The Act of 1858, which transferred India from the Company to the Crown, also laid down the scheme of its government. Under the Company, the Governor-General had been an Indian autocrat, only responsible to the distant Court of Directors. The Court of Directors had in its turn been answerable to the shareholders, or Court of Proprietors, on the one hand, and, through the Board of Control, to the Sovereign and to Parliament on the other. The Act of 1858 did away with these intermediary bodies between the Governor-General and the British Ministry. For the Court of Directors, the Court of Proprietors, and the Board of Control, it substituted a Secretary of State, aided by a Council appointed by the Crown. The Secretary of State is

Control of India in England. Under the Company.

Under the Crown.

The Secretary of State. His Council in England.

a Cabinet Minister, who comes into and goes out of office with the other members of the Ministry. His Council was originally appointed for life. They are now appointed for ten years only;[1] but may be reappointed for another five years for special reasons. The Secretary of State rules in all ordinary matters through the majority of his Council. But in affairs of urgency, and in the questions which belong to the Secret Department, including political correspondence, he is not required to do so. The Viceroy or Governor-General is appointed by the Crown, and resides in India. His ordinary tenure of office is five years; and it has not been usual for a Governor-General to resign in consequence of a change of the Ministry in England.

Office of Viceroy.

Administration in India.

The supreme authority in India is vested by a series of Acts of Parliament[2] in the Viceroy or Governor-General-in-Council, subject to the control of the Secretary of State in England. Every executive order and every legislative statute runs in the name of the 'Governor-General-in-Council;'[3] but in certain cases,[4] a power is reserved to the Viceroy to act independently. The Governor-General's Council is twofold.

'Governor-General-in-Council.'

Executive Council.

First, the ordinary or Executive Council,[5] usually composed of about six official members besides the Viceroy, which may be compared with the cabinet of a constitutional country. It meets regularly at short intervals, discusses and decides upon questions of foreign policy and domestic administration, and prepares measures for the Legislative Council. Its members divide among themselves the chief departments of State, such as those of Foreign Affairs, Finance, War, Public Works, etc.; while the Viceroy combines in his own person the duties of constitutional Sovereign and of Prime Minister.[6]

[1] Under 32 and 33 Vict. c. 97.

[2] The chief of these Acts are 13 Geo. III. c. 63; 33 Geo. III. c. 52; 3 and 4 Will. IV. c. 85; 21 and 22 Vict. c. 106; and 24 and 25 Vict. c. 67.

[3] A style first authorized by 33 Geo. III. c. 52, sec. 39.

[4] 'Cases of high importance, and essentially affecting the public interest and welfare' (33 Geo. III. c. 52, sec. 47); 'when any measure is proposed whereby the safety, tranquillity, or interests of the British possessions in India may, in the judgment of the Governor-General, be essentially affected' (3 and 4 Will. IV. c. 85, sec. 49); 'cases of emergency' (24 and 25 Vict. c. 67, sec. 23).

[5] The lineal descendant of the original Council organized under the charters of the Company, first constituted by Parliamentary sanction in 1773 (13 Geo. III. c. 63, sec. 7).

[6] The mechanism and working of the Governor-General's Council, and of the Secretariat's, and chief Departments of the Indian Administration, are described in my *Life of the Earl of Mayo*, vol. i. pp. 189-202 (2nd ed.).

Second, the Legislative Council,[1] which is made up of the same members as the preceding, with the addition of the Governor of the Province in which it may be held, and official delegates from Madras and Bombay, together with certain nominated members representative of the non-official Native and European communities. The meetings of the Legislative Council are held when and as required. They are open to the public; and a further guarantee for publicity is ensured by the proviso that draft Bills must be published a certain number of times in the *Gazette*. As a matter of practice, these draft Bills have usually been first subjected to the criticism of the several provincial governments. Provincial Legislative Councils have also been appointed for the Presidencies of Madras and Bombay, and for the Lieutenant-Governorship of Bengal. The members of these local Legislative Councils are appointed by the Viceroy, and their Acts, which can only deal with provincial matters, are subject to the sanction of the Governor-General-in-Council.

Legislative Council.

The Presidencies of Madras and Bombay, and the Lieutenant-Governorships of Bengal and of the North-Western Provinces, have each a High Court,[2] supreme both in civil and criminal business, with an ultimate appeal to the Judicial Committee of the Privy Council in England. Of the minor Provinces, the Punjab has a Chief Court, with three judges; the Central Provinces, Oudh, and Mysore have each a Judicial Commissioner, who sits alone; while in Assam and British Burma, the Chief Commissioner, or supreme executive officer, is also the highest judicial authority.

High Courts of Justice.

The law administered in the Indian Courts consists mainly of—(1) the enactments of the Indian Legislative Councils (Imperial and Provincial), as above described, and of the bodies which preceded them; (2) statutes of the British Parliament which apply to India; (3) the Hindu and Muhammadan laws of inheritance, and their domestic law in causes affecting Hindus and Muhammadans; (4) the Customary Law affecting particular castes and races. Much has been done towards consolidating individual sections of the Indian law;[3] and in the Indian penal code, together with the codes of civil and

The law of British India.

[1] Originally identical with the Executive Council, upon which legislative powers were conferred by 13 Geo. III. c. 63, sec. 36. The distinction between the two Councils was first recognised in the appointment of 'the fourth member' (3 and 4 Will. IV. c. 85, sec. 40).

[2] Constituted out of the Supreme Courts and the Sudder (Sadr) Courts in 1861 (24 and 25 Vict. c. 104).

[3] *Ante*, p. 228.

criminal procedure, we have memorable examples of such efforts.

But although the Governor-General-in-Council is theoretically supreme over every part of India alike,[1] his actual authority is not everywhere exercised in the same direct manner. For ordinary purposes of administration, British India is partitioned into Provinces, each with a government of its own; and certain of the Native States are attached to those Provinces with which they are most nearly connected geographically. These Provinces, again, enjoy various degrees of independence. The two sister Presidencies of Madras and Bombay still retain many marks of their original equality with Bengal. They each have an army and a civil service of their own. They are each administered by a Governor appointed direct from England. They have each an Executive and a Legislative Council, whose functions are analogous to those of the Councils of the Governor-General, although subject to his control.[2] They thus possess a domestic legislature; and in administrative matters, also, the interference of the Viceroy is a somewhat remote contingency.

Provincial Administration.

Madras.

Bombay

Of the other Provinces, Bengal, or rather Lower Bengal, occupies a peculiar position. Like the North-Western Provinces and the Punjab, it is administered by a single official with the style of Lieutenant-Governor, who is controlled by no Executive Council; but, unlike those two Provinces, Bengal has a Legislative Council, so far preserving a sign of its early pre-eminence. The remaining Provinces, whether ruled by a Lieutenant-Governor or a Chief Commissioner, may be regarded from a historical point of view as fragments of the original Bengal Presidency,[3] which as thus defined, would be co-extensive with all British India not included under Madras or Bombay. Garrisons on the Madras or Bombay establishment may be posted in outlying tracts of the old Bengal territories, but civil officers of the Madras and Bombay Services are excluded. The Lieutenant-Governors and most of the Chief Commissioners are chosen from the Covenanted Civil Service. In executive matters they are the practical rulers, but, excepting the Lieutenant-Governor of Bengal, they have no legislative authority. To complete the total area of territory under British administration, it is necessary to add certain *quasi*-Provinces, under the immediate control of the Viceroy. These consist of—AJMERE, transferred from Rájputána; BERAR, or the Districts

Bengal.

Minor Provinces.

[1] 3 and 4 Will. IV. c. 85, secs. 39 and 65.

[2] 24 and 25 Vict. c. 67, sec. 42.

[3] See article BENGAL, *Imperial Gazetteer*, vol. ii. p. 1.

assigned by the Nizám of Haidarábád; the State of MYSORE, under British administration since 1830, but restored in March 1881 to its native Rájá, who has long been a minor; and the tiny territory of COORG, in the extreme south.[1]

'The Regulations.' Another difference of administration, although now of less importance than in former times, derives its name from the old Regulations, or uniform rules of law and practice which preceded the present system of Acts of the Legislature. These Regulations have been from time to time withdrawn as regards certain tracts of country which, from their backward state of civilisation or other causes, seemed to require exceptional treatment. Non-Regulation territory. In non-Regulation territory, broadly speaking, a larger measure of discretion is allowed to the officials, both in the collection of revenue and in the administration of civil justice; strict rules of procedure yield to the local exigencies; and the judicial and executive departments are to a great extent combined in the same hands. Closely connected with this indulgence in favour of the personal element in administration, a wider field is also permitted for the selection of the administrative staff, which is not confined to the Covenanted Civil Service, but includes military officers on the staff and also uncovenanted civilians. 'Deputy Commissioners.' The title of the highest executive official in a District of a Regulation Province is that of Collector-Magistrate. In a non-Regulation District, the corresponding officer is styled the Deputy Commissioner; and the supreme authority in a non-Regulation Province is called, not a Lieutenant-Governor, but a Chief Commissioner. The Central Provinces and British Burma are examples of non-Regulation Provinces; but non-Regulation Districts are to be found also in Bengal and the North-Western Provinces. Their existence is always disclosed by the office of 'Deputy Commissioner.'

The 'District' or territorial unit. Alike in Regulation and in non-Regulation territory, the unit of administration is the District—a word of very definite meaning in official phraseology. The District Officer or 'Collector-Magistrate.' The District officer, whether known as Collector-Magistrate or as Deputy Commissioner, is the responsible head of his jurisdiction. Upon his energy and personal character depends ultimately the efficiency of our Indian Government. His own special duties are so numerous and so various as bewilder the outsider, and the work of his subordinates, European and native, largely depends upon the stimulus of his personal example. His

[1] For the constitution of each of these Provinces, see their articles in the *Imperial Gazetteer*. For a list of them, see *ante*, p. 165.

position has been compared to that of the French *préfet;* but such a comparison is unjust in many ways to the Indian District officer. He is not a creature of the Home Office, who takes his colour from his chief, and represents only officialism; but an active worker in every department of the public well-being, with a large measure of local independence and of individual initiative.

Duties of the 'Collector-Magistrate.'

As the name of Collector-Magistrate implies, his main functions are twofold. He is a fiscal officer, charged with the collection of the revenue from the land and other sources; he also is a civil and criminal judge, both of first instance and in appeal. But his title by no means exhausts his multifarious duties. He does in his smaller local sphere all that the Home Secretary superintends in England, and a great deal more; for he is the representative of a paternal and not of a constitutional government. Police, jails, education, municipalities, roads, sanitation, dispensaries, the local taxation, and the imperial revenues of his District, are to him matters of daily concern. He is expected to make himself acquainted with every phase of the social life of the natives, and with each natural aspect of the country. He should be a lawyer, an accountant, a financier, and a ready writer of State papers. He ought also to possess no mean knowledge of agriculture, political economy, and engineering.

Number of Districts in British India.

The total number of Districts in British India is about 240. They vary greatly in size and number of inhabitants. The average area is 3778 square miles, ranging from 6612 square miles in Madras to 1999 square miles in Oudh. The average population is 802,927 souls, similarly ranging from 1,508,219 in Madras to 161,597 in Burma. The Madras Districts are thus both the largest and the most populous. In every other Province but Madras, the Districts are grouped into larger areas, known as Divisions, each under the charge of a Commissioner. But these Divisions are not properly units of administration, as the Districts are. They are aggregates of units, formed only for convenience of supervision, so that an intermediate authority may exercise the universal watchfulness which would be impossible for a distant Lieutenant-Governor.

Their varying size.

Sub-Districts.

The Districts are again partitioned out into lesser tracts, called Subdistricts, Subdivisions, or *tahsíls.* The system of partitioning, and also the nomenclature, varies in the different Provinces; but generally it may be said that the Subdivision or *tahsíl* is the ultimate basis of administration. Broadly speaking, the Subdivision is characteristic of Lower Bengal,

where revenue duties are in the background, and the *tahsíl* of Madras, where the land settlement requires attention year by year. There is no administrative unit below the Subdivision or *tahsíl*. The *tháná* or police division only exists for police purposes. The *parganá* or fiscal division, under native rule, has now but an historical interest. The village still remains as the agricultural unit, and preserves its independence for revenue purposes in certain parts of the country. The township is peculiar to Burma.

Tahsíls.

Thánás.

Parganás.

The village or agricultural unit.

The judicial jurisdictions coincide for the most part with the magisterial and fiscal boundaries. But except in Madras, where the Districts are large, a single Civil and Sessions Judge, *i.e.* the chief judicial officer of the District, often exercises jurisdiction over more than one District. As has been already mentioned, in non-Regulation territory, the judicial and executive functions are combined in the hands of the Deputy Commissioner.

Jurisdictions.

The preceding sketch of Indian administration would be incomplete without a reference to the Secretariat, or central bureau of each Province, which controls and gives unity to the whole. From the Secretariat are issued the orders that regulate or modify the details of administration; into the Secretariat come the multifarious reports from the local officers, to be there digested for future reference. But although the Secretaries may enjoy the social life of the Presidency capitals, with higher salaries and better prospects of promotion, the efficiency of our Rule rests ultimately upon the shoulders of the District officers, who bear the burden and heat of the day, with fewer opportunities of winning fame or reward. The Secretariat of the Supreme Government of India consists of six branches, each of which deals with a special department of the administration. The officers who preside over them are named respectively, the Foreign Secretary, the Home Secretary, the Financial Secretary, the Military Secretary, the Public Works Secretary, and the Secretary in the Legislative Department. In the Presidencies, Lieutenant-Governorships, and Chief Commissionerships, the Provincial Secretariat is formed on the same model, but the Secretaries are only from one to three in number.

The Secretariat:

of the Government of India;

of the local government.

THE LAND TAX.—The land furnishes the chief source of Indian revenue, and the assessment of the land tax forms the main work of Indian administration. No technical term is

Land Settlement.

more familiar to Anglo-Indians, and none more obscure to the English public, than that of 'land settlement.' Nor has any subject given rise to more voluminous controversy. It will here suffice to explain the general principles upon which the system is based, and to indicate the chief differences in their application to the several Provinces. That the State should appropriate to itself a share of the produce of the soil, is a maxim of finance which has been recognised throughout the East from time immemorial. The germs of rival systems in India can be traced in the survival of military and other service tenures, and in the poll tax of Assam and Burma. The early development of the Indian land system was due to two conditions,—a comparatively high state of agriculture, and an organized plan of administration,—both of which were supplied by the primitive village community. During the lapse of generations, despite domestic anarchy and foreign conquest, the Hindu village preserved its simple customs, written only in the imperishable tablets of tradition.

Ancient land system of India.

In the ancient village community, the land was held, not by private owners, but by occupiers under the village corporation: the Hindu revenue was due, not from individuals, but from the village community represented by its head-man. The harvest of the hamlet was dealt with as a common fund; and before the general distribution, the head-man was bound to set aside the share of the king. No other system of taxation could be theoretically more just, or in practice less obnoxious, to the people. This ancient land system may still be found in parts of India, both under British and native rule; and it prevailed almost universally before the Muhammadan conquest.

Musalmán land tax.

The Musalmáns brought with them the avarice of conquerors, and a stringent system of revenue collection. Under the Mughal Empire, as organized by Akbar the Great, the share of the State was fixed at one-third of the gross produce of the soil; and an army of tax-collectors intervened between the cultivator and the supreme government. The vocabulary of our own land system is borrowed from the Mughal administration. The *zamíndár* himself is a creation of the Muhammadans, unknown to the early Hindu system. He was originally a mere tax-collector, or farmer of the land revenue, who agreed to pay a lump sum from the tract of country assigned to him. But the Hindu chief or local magnate was often accepted by the Mughals as the *zamíndár*, or revenue contractor for the lands under his control. In this way, the Indian *zamíndárs* as a body are of mixed origin, and

represent in some cases not merely an official status, but hereditary rights. If the Hindu village system may be praised for its justice, the Mughal farming system had at least the merit of efficiency. Sháh Jahán and Aurangzeb, as we have seen,[1] extracted a larger land revenue than we obtain at the present day.

When the responsibility of governing the country was first undertaken by the East India Company, no attempt was made to understand the social system upon which the payment of land revenue was based. The *zamíndár* was conspicuous and useful; the village community and the cultivating *ráyat* did not force themselves into notice. The *zamíndár* seemed a solvent person, capable of keeping a contract; and his official position as tax-collector was confused with the proprietary rights of an English landlord. In Bengal, the *zamíndár* has been raised by law to the status of a proprietor at a quit-rent to the State, fixed in perpetuity. In Madras and most other parts of India, the actual cultivator has been raised to that status, subject to a quit-rent to the State, fixed at intervals of thirty years. The aim of the British authorities has everywhere been to establish private property in the soil, so far as is consistent with the punctual payment of the revenue.

The Company's efforts.

The *zamíndár*.

Growth of private rights.

The annual Government demand, like the succession duty in England, is the first liability on the land; when that is satisfied, the registered landholder in Bengal has powers of sale or mortgage scarcely more restricted than those of a tenant in fee-simple. At the same time, the possible hardships, as regards the cultivator, of this absolute right of property vested in the owner have been anticipated by the recognition of occupancy rights or fixity of tenure, under certain conditions. Legal titles have everywhere taken the place of unwritten customs. Land, which was merely a source of livelihood to the cultivator and of revenue to the State, has become a valuable property to the holders. The fixing of the revenue demand has conferred upon the holder a credit which he never before possessed, and created for him a source of future profit arising out of the unearned increment. This credit he may use improvidently. But none the less has the land system of India been raised from a lower to a higher stage of civilisation; that is to say, from holdings in common to holdings in severalty, and from the corporate possession of the village community to individual proprietary rights.

Landed property in India.

With regard to the money rates of the assessment, ample

[1] See *ante*, pp. 344, 345, and *post*, pp. 456-458.

evidence exists. They may be broadly stated to vary from 4d. to 4s. 6d. per cultivated acre, according to the quality of the land. The average is about 2s. per cultivated acre. In the North-Western Provinces they average 2s. 11d. per acre. In the Punjab, with the same system of Land Settlement, but an inferior soil, they average 1s. 4d. But the actual share of the crop, represented by these rates, is a very difficult problem. The Mughal assessment was fixed at one-third of the produce. Under many native rulers, this rate was increased to one-half, and under some to three-fifths. For example, I found that in Párikud the Rájá's officers used to take $\frac{48}{80}$ths of the crop on the threshing-floor, leaving only two-fifths to the cultivator.[1] The English revenue officers adhere to the old theory of a third of the produce, but they make so many deductions in favour of the peasant, as to reduce the Government share to about one-seventeenth of the crop. This question will be discussed in some detail in my general comparison of English and Mughal taxation.[2] It must here suffice to say that the Famine Commissioners, the only body who have had the whole evidence before them, estimate the land tax throughout British India 'at from 3 per cent. to 7 per cent. of the gross outturn.' The old native basis of division, although retained in name in some Provinces, has disappeared in practice. Instead of the ruling power taking from 33 to 60 per cent., the average land tax of the British Government throughout India is only $5\frac{1}{2}$ per cent. of the produce of the fields.

The Land Settlement.

The means by which the land revenue is assessed is known as Settlement, and the assessor is styled a Settlement Officer. In Lower Bengal, the assessment has been accomplished once and for all; but throughout the greater part of India the process is ever going on. The details vary in the different Provinces; but, broadly speaking, a Settlement may be described as the ascertainment of the agricultural capacity of the land.

Village Survey.

Prior to the Settlement is the work of Survey, which determines the area of every village, and in some Provinces of every field. Then comes the Settlement Officer, whose duty it is to estimate the character of the soil, the kind of crop, the opportunities for irrigation, the present means of communication, their probable development, and all other circumstances which tend to affect the value of the produce. With these facts before him, he proceeds to assess the Government demand upon the land, according to certain general principles, which may vary in the several Provinces. The final result is a Settlement Report,

Process of Settlement.

[1] See my *Orissa*, vol. i. p. 34 (ed. 1872). [2] See *post*, pp. 456, 458.

which records, as in a Domesday Book, the whole agricultural statistics concerning the District.

The Permanent Settlement of Bengal.

LOWER BENGAL, and a few adjoining Districts of the North-Western Provinces and of Madras, enjoy a Permanent Settlement, *i.e.* the land revenue has been fixed in perpetuity. When the Company obtained the *díwání* or financial administration of Bengal in 1765, the theory of a Settlement, as described above, was unknown. The existing Muhammadan system was adopted in its entirety. Engagements, sometimes yearly, sometimes for a term of years, were entered into with the *zamíndárs* to pay a lump sum for the area over which they exercised control. If the offer of the *zamíndár* was not deemed satisfactory, another contractor was substituted in his place. But no steps were taken, and perhaps no steps were then possible, to ascertain in detail the amount which the country could afford to pay. For more than twenty years this practice of temporary engagements continued, and received the sanction of Warren Hastings, the first Governor-General of India. Hastings' great rival, Francis, was among those who urged the superior advantages of a permanent assessment. At last, in 1789, a more accurate investigation into the agricultural resources of Bengal was carried out; and the Settlement based upon this investigation was declared perpetual by Lord Cornwallis in 1793.[1]

Our first attempts, 1768-89.

Permanent Settlement, 1793.

Proprietors created by law.

The *zamíndárs* were thus raised to the status of landlords, with rights of transfer and inheritance, subject only to the payment in perpetuity of a rent-charge. In default of due payment, their lands were to be sold to the highest bidder. The assessment of Lower Bengal was fixed at *sikká* Rs. 26,800,989, equivalent to Rs. 28,587,722, or say $2\frac{3}{4}$ millions sterling. By the year 1871-72, the total land revenue realized from the same area had increased to Rs. 35,208,866, chiefly owing to the inclusion of estates which had escaped the original assessment on various pretexts. While the claim of Government against the *zamíndárs* was thus fixed for ever, the law intended that the rights of the *zamíndárs* over their own tenants should equitably be restricted. But no detailed record of tenant-right was inserted in the Settlement papers; and as a matter of fact, the cultivators lost rather than gained in security of tenure. The rights of the landlord, as against the State, were defined by the Regulations of 1793; the rights of the tenants, as against the landlord, were

Fixed land tax of Lower Bengal, 1793.

[1] The personal aspects of this measure, and the parts played by the Court of Directors, the Governor-General (Lord Cornwallis), and his chief Indian adviser (John Shore), are narrated *ante*, pp. 399, 400.

'reserved' by those Regulations, but were not defined. The landlord could therefore go into Court with a precise legal status; the cultivator could only shelter himself under vague customary rights.

Cultivators oppressed, 1799-1812.

By two stringent Regulations in 1799 and 1812, the tenant was placed at the mercy of a rack-renting landlord. If he failed to pay his rent, however excessive, his property was rendered liable to distraint, and his person to imprisonment. At the same time, the operation of the revenue sale law had introduced a new race of *zamíndárs*, who were bound to their tenants by no traditions of hereditary sympathy, but whose sole object was to make a profit out of their newly purchased property. The rack-rented peasantry found little protection in our courts until 1859, when an Act was passed which restricted the landlord's powers of enhancement in certain specified cases.

Land Law of 1859.

The *zamíndár* is the only person recognised by the revenue law; but in a large number of cases the *zamíndár* has in effect parted with all his interest in the land, by means of the creation of perpetual leases or *patnis.* These leases are usually granted in consideration of a lump sum paid down and an annual rent. The *patnidár* may in turn create an indefinite series of subtenures beneath his own, under such titles as *dar-patnis*, *se-patnis*, etc. I have mentioned that the Permanent Settlement was not preceded by any systematic survey. But in the course of the past thirty years, the Lower Bengal has been subjected to a professional survey, which determined the boundaries of every village, and issued maps on the scale of 4 inches to the mile. This survey, however, has only a topographical value. Few statistical inquiries were made, and no record obtained of rights in the soil. Even the village landmarks then set up have been suffered to fall into decay.

Intermediate tenure-holders.

Imperfect survey of Bengal.

Land reform of 1859.

The Land Law of 1859 tried to remedy this state of things. It divided the cultivators of Bengal into four classes:—First, those who had held their holdings at the same rates since 1793. It ordained that the rents of such tenants should not be raised at all. Second, those who had held their land at the same rent for twenty years. It ordained that such tenants should be presumed by law to have held since 1793, unless the contrary was proved. Third, those who had held for twelve years. To such tenants it gave a right of occupancy, under which their rents could be raised only for certain specified reasons by a suit at law. Fourth, those who had held for less than twelve years. These were left by Act x. of 1859 to make what bargain they could with the landlords.

Further experience, since 1859, has shown that even these provisions are inadequate to avert the wholesale enhancement of rents in Bengal. The Government accordingly issued a Commission in 1879 to inquire into the questions involved; and the report of the Commission has just reached England. The Commissioners of 1879 would confirm all the rights given to the peasant by the Land Code of 1859, and they propose to augment them. The first class of cultivators, who have held their land at the same rates since 1793, can never have their rent raised. The second class, or those who have thus held for twenty years, are still presumed to have held since 1793. The third class of cultivators, who have held for twelve years, would have their privileges increased. Their occupancy rights would be consolidated into a valuable peasant-tenure, transferable by sale, gift, or inheritance. The Commissioners also propose that any increase in the value of the land or of the crop, not arising from the agency of either the landlord or the 'occupancy tenant,' shall henceforth be divided equally between them. This provision is a very important one in a country like Bengal, where new railways, new roads, and the increase of the people and of trade constantly tend to raise the price of the agricultural staples. What political economists call the 'unearned increment,' would, if this proposal is adopted, be halved between the proprietor and the cultivator with occupancy rights.

Subsequent rise in rent.

Rent Commission, 1879.

Its proposals, 1880.

But the great changes proposed by the Rent Commissioners of 1879 refer to the fourth or lowest class of husbandmen, who have held for less than twelve years, and whom the Land Code of 1859 admitted to no rights whatever. The Commissioners would accord a quasi-occupancy right to all tenants who have held for three years. If the landlord demands an increased rent from such a tenant, and the tenant prefers to leave rather than submit to the enhancement, then the landlord must pay him—first, a substantial compensation for disturbance, and second, a substantial compensation for improvements. The compensation for disturbance is calculated at a sum equal to one year's increased rent, as demanded by the landlord. Whether these proposals become law remains to be seen.

Three years' tenants.

Compensation for disturbance.

The Permanent Settlement was confined to the three Provinces of Bengal, Behar, and Orissa, according to their boundaries at that time. Orissa Proper, which was conquered from the Marhattás in 1803, is subject to a temporary Settlement, of which the current term of thirty years will not expire until 1897.

Orissa Settlements, 1803-38.

The assessment is identical with that fixed in 1838, which was based upon a careful field measurement and upon an investigation into the rights of every landholder and under-tenant. The Settlement, however, was made with the landholder, and not with the tenant; and in practice the rights of the cultivators are on the same footing as in Bengal. In Assam Proper, or the valley of the Brahmaputra, the system of settlement is simple and effective. The cultivated area is artificially divided into *mauzás* or blocks, over each of which is placed a native official or *mauzádár*. Every year the *mauzádár* ascertains the area actually under cultivation, and then assesses the fields, according to their character, at a prescribed rate.

Assam Settlement, yearly.

Ráyatwári Settlement in Madras.

The prevailing system throughout the Madras Presidency is the *ráyatwári*, which takes the cultivator or peasant proprietor as its rent-paying unit, as the Bengal system takes the *zamíndár*. This system cannot be called indigenous to the country, any more than the *zamíndári* is to Bengal. When the British declared themselves heir to the Nawáb of the Karnatic at the beginning of the present century, they had no adequate experience of revenue management. The authorities in England favoured the *zamíndári* system already at work in Bengal,—a system which appeared best calculated to secure punctual payment. The Madras Government was accordingly instructed to enter into permanent engagements with *zamíndárs*; and where no *zamíndárs* could be found, to create substitutes out of enterprising contractors. The attempt resulted in utter failure, except in tracts where the *zamíndárs* happened to be the representatives of ancient lines or powerful chiefs. Several such chiefs exist in the extreme south and in the north of the Presidency. Their estates have been guaranteed to them on payment of a *peshkash* or permanent tribute, and are saved by the custom of primogeniture from the usual fate of subdivision. Throughout the rest of Madras, the influence of Sir Thomas Munro led to the adoption of the *ráyatwári* system, which will always be associated with his name.

Its history.

Zamíndárí system failed.

Sir Thomas Munro, 1820.

Madras method of assessment:

According to this system, an assessment is made with the cultivator upon the land actually taken for cultivation. Neither *zamíndár* nor village community intervenes between the cultivator and the State. The early *ráyatwári* settlements in Madras were based upon insufficient experience. They were preceded by no survey, and they had to adopt the crude estimates of native officials. Since 1858, a department of Revenue Survey has been organized, and the assessment carried out *de novo*. Nothing can be more complete in theory than a

Madras *ráyatwári* settlement. First, the area of the entire District, whether cultivated or uncultivated, and of each field within the District, is accurately measured. The next step is to calculate the estimated produce of each field, having regard to every kind of both natural and artificial advantage. Lastly, an equitable rate is fixed upon every field. The elaborate nature of these inquiries and calculations may be inferred from the fact that as many as 35 different rates are sometimes struck for a single District, ranging from as low as 6d. to as high as £1, 4s. per acre. The rates thus ascertained are fixed for a term of thirty years; but during that period the aggregate rent-roll of a District is liable to be affected by several considerations. New land may be taken up for cultivation, or old land may be abandoned; and occasional remissions may be permitted under no fewer than eighteen specified heads.

first, measurement; second, estimate of produce; third, fixing the rates.

Thirty years' settlement.

Such matters are decided by the Collector at the *jamábandi* or inquest held every year for ascertaining the amount of revenue to be paid by each *ráyat* for the current season. This annual inquiry has sometimes been mistaken for a yearly reassessment of the *ráyat's* holding. It is not, however, a change in the rates for the land which he already holds, but an inquiry into and record of the changes in his holding, or of any new land he may wish to take up.

Madras yearly *jamábandi*.

Certain of the Madras Districts on the seaboard adjoining Bengal were granted on a Permanent Settlement to *zamíndárs*, hereditary native chiefs or revenue-farmers. The land thus permanently settled forms one-eighth of the area of Madras. Throughout the other seven-eighths, the *ráyatwári* settlement has raised the cultivator into a peasant proprietor. This person was formerly the actual tiller of the soil. But as population increased under British rule, the value of the land rose, and the peasant proprietor has in many cases been able to sub-let his holding to poorer cultivators, and to live, in whole or part, off the rent. The Government has during the same period decreased rather than increased its average land tax per acre throughout the Madras Presidency. For as the people multiplied, they were forced back upon inferior soils, and the average Government demand per acre has been proportionately diminished. But the very same process of falling back on the inferior soils has, according to economical principles, created the possibility of levying a rent from the superior ones. This rent is enjoyed by the former cultivators, many of whom are thus growing

Permanent Settlement in Madras.

Sub-tenures.

The cultivator grows into a proprietor.

into petty landholders, living upon the rent of fields which their fathers tilled with their own hands.

Extension of tillage in Madras, 1853-78.

An idea of the increase of population in Madras, and of the extension of cultivation, may be obtained from the following figures:—In 1853, the general population was estimated at 22 millions; in 1878, at 31½ millions, showing an increase of 43 per cent., or nearly one-half. The cultivated land, held by husbandmen direct from the State, had increased from 12 to 20 millions of acres, or 66 per cent., exactly two-thirds. The area of tillage had, therefore, not only kept pace with the increase of population, but had extended at a ratio of 50 per cent. more rapidly. This resulted partly from the fact that the inferior lands, now reclaimed, could not support so large an average of people as the superior lands, which were already in cultivation at the commencement of the period. The Government recognised this, and has accordingly increased its rental only from 3 millions to $3\frac{4}{5}$ millions sterling; being only 26 per cent., or one-fourth, while the area of cultivation has increased by 66 per cent. The Government, in fact, has reduced its average rental over the total area of cultivation from 5s. an acre in 1853 to 3s. 10d. an acre in 1878, or over 23 per cent., say one-fourth. According to the ordinary theory of rent, rates should have risen enormously during that period; and they have risen enormously wherever the land is held by private proprietors. As regards the Madras Presidency, the facts may be recapitulated thus. During the 25 years ending 1878, the area of cultivation has increased by 66 per cent., or two-thirds; the population by 43 per cent., or nearly one-half; and the Government rental by only 26 per cent., or one-fourth; while the average rates of rent per acre have been actually reduced by over 23 per cent., or nearly one-fourth, from 5s. an acre in 1853 to 3s. 10d. an acre in 1878. Instead of taking advantage of the increase of population to enhance the rental, the Madras Government has realized the fact that the increase in numbers means a harder struggle for life, and has reduced instead of enhancing, according to the economic laws of rent, the average rates throughout its domains.

Exceeds the growth of the population.

Reduction of average land tax.

Land system of Bombay.

Bombay, again, has a land system of its own, which requires to be distinguished from the *ráyatwári* of Madras, though resembling it in some particulars. In the early days of our rule, no regular method existed throughout the Bombay Presidency; and at the present time there are tracts where something of the old confusion survives. The modern 'survey tenure,' as it is called, dates from 1838, when it was

first introduced into one of the *tálukas* of Poona District: it has since been gradually extended over the greater part of the Presidency. As its name implies, the Settlement is preceded by survey. Each field is measured, and an assessment placed upon it according to the quality of the soil and the crop. This assessment holds good for a term of thirty years. The ordinary rates vary in different Districts from 4s. 6d. an acre in the rich black-soil lands of Guzerat, to 10d. an acre in the hills of the Konkan.

The 'survey tenure' of Bombay.

Its rates.

The primary characteristic of the Bombay system is its simplicity. The field is the unit, and its actual occupier is the only person recognised by the revenue law. He knows exactly what he will have to pay, and the State knows what it will receive, during the currency of the term. The assessment is, in fact, a quit-rent liable to be modified at intervals of thirty years. The Bombay system is also characterised by its fairness to the tenant. He possesses 'a transferable and heritable property, continuable without question at the expiration of a settlement lease, on his consenting to the revised rate.' To borrow a metaphor from English law, his position has been raised from that of a villein to that of a copyholder. In place of the bare permission to occupy the soil, he has received a right of property in it. If the Bombay peasants have not reaped all the advantages from this system that might have been hoped for, the fault rests not with the system, but with themselves. Some of them have proved unequal to the responsibilities of property which they had not won by their own exertions. In rich districts, the men who were recorded as the actual occupiers are able to let their land to poorer cultivators, and so live off the toil of others upon fields which they themselves had formerly to till. But these proprietary rights give the peasant a power of borrowing which he did not possess before. In certain parts, especially in the dry districts of the high-lying Deccan, the husbandmen have got hopelessly into debt to the village bankers. The peasant was often improvident, the seasons were sometimes unfortunate, the money-lender was always severe.

Its simplicity.

Its advantages to the provident.

Its disadvantages to the improvident.

Amid the tumults of native rule, the usurers lent comparatively small sums. If the peasant failed to pay, they could not evict him or sell his holding; because, among other reasons, there was more land than there were people to till it. The native Government, moreover, could not afford to losea tenant. Accordingly the bankrupt peasant went on, year after year, paying as much interest as the money-lender could

Debts of the Deccan peasant.

squeeze out of him; until the next Marhattá invasion or Muhammadan rebellion swept away the whole generation of usurers, and so cleared up the account. Under our rule there is no chance of such relief for insolvent debtors; and our rigid enforcement of contracts, together with the increase of the population, has armed the creditor with powers formerly unknown. For the peasant's holding under the British Government has become a valuable property, and he can be readily sold out, as there are always plenty of husbandmen anxious to buy in. The result is twofold. In the first place, the village banker lends larger sums, for the security is increased; and in the second place, he can push the peasantry to extremities by eviction, a legal process which was economically impossible under native rule.

Bombay Relief Act, 1879.

In Bengal, the cry of the peasant is for protection against the landlord. In South-western India, it is for protection against the money-lender. After a careful inquiry, the Government determined to respond to that cry. It has practically said to the village bankers: 'A state of things has grown up under British rule which enables you to push the cultivators, by means of our Courts, to extremities unknown under the native dynasties, and repugnant to the customs of India. Henceforth, in considering the security on which you lend money, please to know that the peasant cannot be imprisoned or sold out of his farm to satisfy your claims; and we shall free him from the life-long burden of those claims by a mild bankruptcy law.' Such is the gist of the Southern India Agriculturists' Relief Act of 1879.

Its provisions for the husbandman.

It provides, in the first place, for small rural debtors of £5 and under. If the Court is satisfied that such a debtor is really unable to pay the whole sum, it may direct the payment of such portion as it considers that he can pay, and grant him a discharge for the balance. To debtors for larger amounts, it gives the protection of an Insolvency Act. No agriculturist shall henceforth be arrested or imprisoned in execution of a decree for money. In addition to the old provisions against the sale of the necessary implements of his trade, no agriculturist's immoveable property shall be attached or sold in execution of any decree, unless it has been specifically mortgaged for the debt to which such decree relates. But even when it has been specifically mortgaged, the Court may order the debtor's holding to be cultivated, for a period not exceeding seven years, on behalf of the creditor, after allowing a sufficient portion of it for the support of the debtor and his

family. At the end of the seven years, the debtor is discharged. If the debtor himself applies for relief under the Insolvency clauses, the procedure is as follows :—His moveable property, less the implements of his trade, are liable to sale for his debts. His immoveable property, or farm, is divided into two parts, one of which is set aside as 'required for the support of the insolvent and members of his family dependent on him,' while the remainder is to be managed on behalf of his creditors. But 'nothing in this section shall authorize the Court to take into possession any houses or other buildings belonging to, and occupied by, an agriculturist.' Village arbitrators or 'conciliators' are appointed by the same Act, and every creditor must first try to settle his claims before them. If the effort at arbitration fails, the 'conciliator' shall give the applicant a certificate to that effect. No suit to which an agriculturist (residing within any local area to which a 'conciliator' has been appointed) is a party, shall be entertained by any Civil Court, unless the plaintiff produces a certificate from the 'conciliator' that arbitration has been attempted and failed.

'Conciliators.'

Land system of N.W. Provinces and Punjab.

The North-Western Provinces and the Punjab have practically one land system. In that part of India, the village community has preserved its integrity more completely than elsewhere. Government therefore recognises the village, and not the *zamíndár's* estate or the *ráyat's* field, as the unit of land administration. Throughout the North-Western Provinces, however, the village is commonly owned by a proprietary body, called *zamíndárs;* whereas in the Punjab the joint community is still the proprietor. But this is a distinction of tenure rather than of administration. In both cases alike, the State recognises only the village, and makes its arrangement with the owners of the village, whether they be one or many, whether they be individuals, a joint corporation, or a *bháyáchára* (brotherhood). The survey is a more comprehensive undertaking than in Madras or Bombay. In addition to the processes of measurement, and agricultural appraisement, it includes the duty of drawing up an exhaustive record of all rights and subtenures existing in every village. The proprietors are alone responsible for the revenue; but while the State limits its claims against them, it defines the rights of all other parties interested in the soil. The settlement in the North-Western Provinces and in Punjab is for thirty years. The principle of assessment is that the Government revenue shall be equal to one-half of the improved rent, leaving the other half as the

Corporate holdings.

share of the landlord, who is liable for due payment, and has the trouble of collecting it from the cultivators. The average rate of assessment is about 2s. 11d. per acre in the North-Western Provinces, and 1s. 4d. in the Punjab.

Land system of Oudh.

The *tálukdárs.*

Oudh, the Indian Province most recently acquired, has a peculiar land system, arising out of its local history. The Oudh *tálukdárs* resemble English landlords more closely even than do the *zamíndárs* of Bengal. In origin, they were not revenue-farmers but territorial magnates, whose influence was derived from feudal authority, military command, or hereditary sway. Their present legal status dates from the pacification after the Mutiny of 1857. The engagement then entered into has been described as a political treaty, rather than a revenue assessment. The great *tálukdárs* were invited to become responsible each for a gross sum payable from the territory over which he exercised feudal rights. The exceptional position of the *tálukdárs* was recognised by conferring upon them, not only the privilege of succession by primogeniture, but also the power of bequest by Will—a land-right unknown alike to Hindu or Muhammadan law. Land not comprised in *tálukdárí* estates was settled in the ordinary way with its proprietors or *zamíndárs* for a term of thirty years. The whole of Oudh has since been accurately surveyed.

Land system of Central Provinces.

The Central Provinces contain many varieties of land tenure, from the feudatory chiefs, who pay a light tribute, to the village communities, who are assessed after survey. Population is sparse and agriculture backward, so that the incidence of land revenue is everywhere low. The survey was conducted generally on the Punjab system, adopting the village as the unit of measurement. But in the Central Provinces the British Government gave proprietory rights to the former revenue-farmers, or fiscal managers of villages, under native rule. It thus created a body of landholders between itself and the cultivators. Of the rental paid by the husbandmen, the Government ordinarily takes one-half as land tax, and allows one-half to the proprietory body. The current settlement, for a term of thirty years, will expire in 1897.

Land revenue of British India.

The gross land revenue realized from territory under British administration in India, during the ten years ending 1879, averaged £20,963,069,[1] which is raised to about $22\frac{3}{4}$ millions by the inclusion of certain local rates and cesses levied on land. This latter figure shows an average of $9\frac{1}{4}$d. per acre

[1] Parliamentary Abstract relating to British India, 14th November (1880), p. 27.

of gross area, or 2s. per cultivated acre; and 2s. 4½d. per head of total population. The highest rate of assessment appears to be that in Bombay, which is 3s. 10¼d. per head; the lowest, 1s. 2½d. per head in Bengal and Assam. The *net* land revenue realized from British India, deducting charges of collection, during the ten years ending 1881, averaged 18½ millions sterling. In 1880-81, the Budget estimate was 21⅓ millions *gross*, and 18⅓ millions *net*.[1]

SALT TAX.—Salt ranks next to the land revenue among items of actual taxation in India; opium being excluded, as paid by the Chinese consumer. Broadly speaking, the salt consumed in India is derived from four sources—(1) importation by sea, chiefly from the mines of Cheshire; (2) solar evaporation in shallow tanks along the seaboard; (3) gatherings from the Salt Lakes in Rájputána; (4) quarrying in the Salt Hills of the Northern Punjab. Until recently, the tax levied upon salt varied very much in different parts of the country; and a numerous preventive staff was stationed along a continuous barrier hedge, which almost cut the peninsula into two fiscal sections.

Salt administration.

Sources of salt.

The reform of Sir J. Strachey in 1878, by which the higher rates have been reduced and the lower rates raised, with a view to their ultimate equalization over the whole country, has effectually abolished this engine of oppression. Communication is now free; and it has been found that prices are lowered by thus bringing the consumer nearer to his market, even though the rate of taxation be increased. In the Punjab and Rájputána, salt administration has now become, as in Lower Bengal, a simple matter of weighing quantities and levying a uniform tax. In Bombay, also, the manufacture is now conducted with a minimum of expense at large central depôts in Guzerat, under a thorough system of excise supervision. Along the western coast, however, from Orissa to Cape Comorin, the process of evaporating sea-water is carried on as a private industry, although on the Government account.

Reform of 1878.

Systems of manufacture.

Like the poppy cultivation in Bengal, the manufacture of salt in Madras is a monopoly, which can be defended by the circumstances of the case. No one is compelled to manufacture, and rights of property in a salt-pan are strictly respected; while the State contrives, by means of a careful staff of supervisors, to obtain the maximum of profit with a minimum of interference. The system as at present carried on has been

Working of the monopoly in Madras.

[1] Parliamentary Return, dated 8th July 1880.

gradually developed from the experience of nearly a century. The manufacturers belong to the same class as ordinary cultivators; and, as a rule, their condition is somewhat more prosperous, for they possess a hereditary privilege with a commercial value. They do not work upon a system of advances, as is the case with so many other Indian industries; but they are paid at a certain rate when they bring their salt to the Government depôt. This rate of payment, known as *kudivaram*, is at present fixed at an average of 1 *ánná* 5·8 *pies* (or about $2\frac{1}{4}$d.) per *maund* of $82\frac{2}{7}$ lbs.; the other expenses of the Salt Department for supervision, etc., raise the total cost to 3 *ánnás* 5·6 *pies* (or about $5\frac{1}{4}$d.) per *maund*. The price now charged to the consumer by the Madras Government is Rs. 2. 8. (or about 5s.) per *maund*, the balance being net profit.

Cost of salt in Madras.

Duty of salt.

Equalization of duty.

The equal rate of salt duty which will ultimately prevail throughout all India is Rs. 2. 8. a *maund*, or 7s. a cwt. This rate is already (1881) levied in Madras, Bombay, the North-Western Provinces, and the Punjab; but in Bengal, a higher rate is provisionally in force of Rs. 2. 14. a *maund*, or 8s. a cwt. In British Burma, only 3 *ánnás* per *maund*, or 6d. a cwt., is charged for local consumption, and a transit duty of 1 per cent. *ad valorem* for salt sent across the frontier.

Process of manufacture.

The process of manufacture is exceedingly simple, and at the same time free from temptations to smuggling. The season lasts from about January to July, in which latter month the downpour of rain usually puts a stop to operations. A site is selected in the neighbourhood of one of those back-waters or inlets which abound along the coast. Before commencing, the proprietor of the salt-pan must year by year obtain the consent of the Collector of the District, and must engage to supply a certain quantity of salt. The first step is to form a series of pans or reservoirs of varying degrees of shallowness by banking up the earth, with interconnecting channels. Into the outer and deepest of these pans, the sea-water is baled by means of the lever and bucket-lift, and there allowed to stand for some days until it has by evaporation acquired the consistency of brine. The brine is then passed through the channels into the remainder of the series of gradually shallowing pans. At last, it becomes crystallized salt, and is scraped off for conveyance to the wholesale depôt. It is estimated that in a favourable season this process may be repeated *de novo* from twelve to fifteen times, according as the weather permits; but a single shower of rain will spoil the whole operation at any stage.

Excise administration.

Excise Duties in India are not a mere tax levied through the private manufacturer and retailer, but (like salt) a species of Government monopoly. The only excisable articles are intoxicants and drugs; and the object of the State is to check consumption, not less than to raise revenue. The details vary in the different Provinces, but the general plan of administration is the same. The right to manufacture, and the right to retail, are both monopolies of Government, let out to private individuals upon strict conditions. Distillation of country spirits is conducted under two systems—either to the highest bidder under strict supervision, or only upon certain spots set apart for the purpose. The latter is known as the *sadr* or central distillery system. The right of sale is also farmed out to the highest bidder, subject to regulations fixing the quantity of liquor that may be sold at one time. The brewing of beer from rice and other grains, which is universal among the hill tribes and other aboriginal races, is practically untaxed and unrestrained. The European breweries, recently established at several hill stations, pay a tax at the rate of 6d. a gallon.

Distillery system. Rice-beer.

Excise duties are also levied upon the sale of a number of intoxicating or stimulant drugs, of which the most important are opium and *gánjá* or *bhang*. Opium is issued for local consumption in India from the Government manufactories at Patná and Benares, and sold through private retailers at a monopoly price. This drug is chiefly consumed in Assam, Burma, and the Punjab. *Gánjá* is an intoxicating preparation made from the flowers and leaves of Indian hemp (*Cannabis sativa*, var. *indica*). The cultivation of hemp for this purpose is almost confined to a limited area in Rájsháhí District, Bengal, and to the inner valleys of the Himálayas, whence the drug is imported under the name of *charas*. Its use is a frequent cause, not only of crime, but also of insanity. Government attempts to check consumption—first, by fixing the retail duty at the highest rate that will not encourage smuggling; and second, by continually raising that rate as experience allows. Strictly speaking, *gánjá* consists of the flowering and fruiting heads of the female plant; *bháng* or *siddhi*, of the dried leaves and small stalks, with a few fruits; while *charas* is the resin itself, collected in various ways as it naturally exudes. No duty is at present levied upon tobacco in any part of British India. The plant is universally grown by the cultivators for their own smoking, and, like everything else, was subject to taxation under native rule; but the impos-

Opium. *Gánjá.* *Charas.* Tobacco.

sibility of accurate excise supervision has caused the British Government to abandon this impost.

Municipal administration.

The municipalities at present existing in India are a creation of the Legislature; indeed, a recent branch of our system of administration. Their origin is to be traced, not to the native *pancháyat*, but to the necessity for relieving the District officer from some of the details of his work. The *pancháyat* or elective Council of Five is one of the institutions most deeply rooted in the Hindu mind. By it the village community was ruled, the head-man being only the executive official, not the legislator or judge; by it all caste disputes were settled; by it traders and merchants were organized into powerful guilds, to the rules of which even European outsiders have had to submit; by it the Síkh army of the *khálsá* was despotically governed, when the centralized system of Ranjít Sinh fell to pieces at his death. But the Hindu village organization had been broken up under Mughal rule. Police, roads, and sanitation are the three main objects for which a modern Indian municipality is constituted. In rural tracts, these departments are managed (in different Provinces) by the Collector, or by one of his subordinate staff, or by a Local Fund Board. Within municipal limits, they are delegated to a Committee, who practically derive their authority from the Collector's sanction, implied or expressed. Except in the great towns, the municipalities can scarcely be said to yet exhibit the attributes of popular representation or of vigorous corporate life. However, as education advances, and with it the desire and capacity of self-government, the municipal committee will doubtless form the germ from which free local institutions will in the future be developed. In 1876-77, excluding the three Presidency capitals, there were altogether 894 municipalities in British India, with 12,381,059 inhabitants, or just 7 per cent. of the total population. Out of an aggregate number of 7519 members of municipal committees, concerning whom information is available, 1794 were Europeans and 5725 natives; 1863 were *ex-officio*, 4512 nominated by Government, and 1144 elected, the last class being almost confined to the North-Western and Central Provinces. The financial statistics of these municipalities are given at p. 465. The three great municipalities in the Presidency towns of Calcutta, Madras, and Bombay administered a population in 1877 of 1½ million. Their governing bodies aggregated 176 members, of whom 122 were natives. Eighty of the members were elected by the ratepayers.

The old 'Council of Five.'

Municipal statistics.

Imperial finance.

FINANCE. — It is difficult to present a view of Indian finance, which shall be at once concise and intelligible. The subject is full of controversies and is obscured by ambiguities. In the first place, the aggregate revenue and expenditure are officially returned according to a system which, although necessary for purposes of account, is apt to mislead the English critic. The Indian Government is not a mere tax-collecting agency, charged with the single duty of protecting person and property. Its system of administration is based upon the view that the British power is a paternal despotism, which owns, in a certain sense, the entire soil of the country, and whose duty it is to perform the various functions of a wealthy and an enlightened proprietor. It collects its own rents; it provides, out of its own capital, facilities for irrigation, means of communication, public buildings, schools, and hospitals. It also takes on itself the business of a railway owner and of a manufacturer on a grand scale, as in the case of opium and salt. These departments swell the totals on both sides of the balance-sheet with large items, not of the nature of taxation or of administrative expenditure.

Its obscurities.

The 'business' of the Indian Government.

Changes in system of account.

In the second place, the methods of keeping the Indian public accounts have been subjected to frequent changes during recent years, to such an extent as to vitiate all comparative statements, for long periods of time. The commercial traditions, inherited from the days of the Company, regulated the Indian accounts until about the year 1860. From that date efforts have been made to bring the system of Indian accounting into conformity with that of the English public accounts. It results that the same entries represent different facts at different periods. Thus, under the Company, the items usually represented the *net* sums; they now represent the gross sums. At one period, the gross receipts are shown, with a *per contra* for the charges of collection or for refunds. At another time, important classes of charges have been transferred from the Imperial to the Provincial Budgets, to be brought back again after an interval of a few years to the Imperial Budget, and again transferred to Local Finance. Capital expenditure on public works, at one period charged to current revenue, is at another excluded, as being 'extraordinary' or 'reproductive.' The entire net income of all railways, whether the property of the State or of guaranteed companies, has now been entered as Imperial revenue, and the interest to shareholders as Imperial expenditure. The Indian accounts represent, therefore, not only the Indian taxation and the cost of administration; they

The resulting obscurities.

represent the trade expenses and profits of the Government as a great railway owner, canal maker, opium manufacturer, salt monopolist, and pioneer of new industries. They also represent these profits and expenses under diverse systems of account at different periods.

I shall therefore first endeavour to exhibit the actual taxation of British India, as compared with that of the Mughal Empire. I shall then show the gross revenue and expenditure of British India, whether of the nature of taxation or otherwise, and analyze its principal items.

Gross taxation of British India.

THE TAXATION paid by the people of British India during the ten years ending 1879, averaged $35\frac{1}{3}$ millions. The subjoined table shows the *gross* items, exclusive of the opium duty which is paid by the Chinese consumer, tributes from foreign or feudatory States, forest receipts, and the Mint. The actual taxation arranges itself under seven branches, as given in the statement on the opposite page.

Net and gross taxation of British India.

The *net* taxation of British India, that is to say, the sums realized, less the cost of collection, averaged 32 millions.[1] Returns of *net* taxation, however, depend much upon the method on which they are prepared. But the final accounts as presented to Parliament enable us to arrive accurately at the gross taxation paid by the Indian people, as above shown, at $35\frac{1}{3}$ millions during the ten years ending 1879, or a rate of 3s. 8d. per head.

English and Indian taxation.

This rate contrasts alike with that paid by the taxpayer in England, and by the subjects of the Mughal Empire in India. The 34 millions of people in Great Britain and Ireland pay 68 millions of Imperial taxation,[2] besides heavy local and municipal burdens. The revenues of the Mughal Empire, derived from a much smaller area and population than those of British India, varied, as we have seen,[3] from 42 millions *net* under Akbar in 1593 to 80 millions under Aurangzeb in 1695.

Indian taxation under the Mughals,

If we examine the items in the Mughal accounts, we find the explanation of their enormous totals. The land tax then, as now, formed about one-half of the whole revenue. The net land revenue demand of the Mughal Empire averaged

[1] Compiled from the Parliamentary Return, 8th July 1880, pp. 4, 5.

[2] Customs, 20 millions; Inland revenue, 48 millions: total taxation, 68 millions. The *gross* revenue of the United Kingdom in 1880 is £81,265,055, besides £29,247,595 of local taxation; total, £110,512,650.

[3] *Ante*, p. 344; table of Mughal Revenues (1593 to 1761), p. 346.

GROSS TAXATION OF BRITISH INDIA.

Compiled from the Parliamentary Return dated 8th July 1880.

	1869-70.	1870-71.	1871-72.	1872-73.	1873-74.	1874-75.	1875-76.	1876-77.	1877-78.	1878-79.
	£	£	£	£	£	£	£	£	£	£
Land Revenue, . .	21,088,019	20,622,823	20,520,337	21,348,669	21,037,912	21,296,793	21,503,742	19,857,152	19,869,667	22,330,586
Excise, ...	2,253,655	2,374,465	2,369,109	2,323,788	2,286,637	2,346,143	2,493,232	2,523,045	2,457,075	2,619,349
Assessed Taxes, . .	1,110,224	2,072,025	825,241	580,139	20,136	2,747	510	310	86,110	900,920
Provincial Rates, . .	...	...	...	...	...	...	...	...	238,504	2,638,835
Customs, . . .	2,429,185	2,610,789	2,575,990	2,653,890	2,628,495	2,678,479	2,721,389	2,483,345	2,622,296	2,326,561
Salt, ...	5,888,707	6,106,280	5,966,595	6,165,630	6,150,662	6,227,301	6,244,415	6,304,658	6,460,082	6,941,120
Stamps, . . .	2,379,316	2,510,316	2,476,333	2,608,512	2,699,936	2,758,042	2,835,368	2,838,628	2,993,483	3,110,540
Total, .	£35,149,106	36,296,698	34,733,605	35,680,628	34,823,778	35,309,505	35,798,656	34,007,138	34,727,217	40,867,911

Total for Ten Years ending 1879, ...	£357,394,242
Deduct Refunds, Drawbacks, and adjusting Payments, as per Parliamentary Statement, ...	4,379,234
Gross Taxation for Ten Years ending 1879, . .	£353,015,008
Yearly Average of Gross Taxation, ...	£35,301,500

25 millions sterling from 1593 to 1761; or 32 millions during the last century of that Empire, from 1655 to 1761. The annual *net* land revenue raised from the much larger area of British India, during the ten years ending 1879, has been 18 millions sterling (*gross*, 21 millions). But besides the land revenue there were under our predecessors not less than forty imposts of a personal character. They included taxes upon religious assemblies, upon trees, upon marriage, upon the peasant's hearth, and upon his cattle. How severe some of them were, may be judged from the poll tax. For the purposes of this tax, the non-Muhammadan population was divided into three classes, paying respectively £4, £2, and £1 annually to the Exchequer for each adult male. The lowest of these rates, if now levied from each non-Musalmán male adult, would alone yield an amount exceeding our whole Indian taxation. Yet, under the Mughal Empire, the poll tax was only one of forty burdens.

much heavier than now.

Mughal poll tax.

Summary.

We may briefly sum up the results. Under the Mughal Empire, 1593 to 1761, the existing returns of the Imperial demand averaged about 60 millions sterling a year. During the ten years ending 1879, the Imperial taxation of British India, with its far larger population, averaged 35 millions. Under the Mughal Empire, the land tax between 1655 and 1761 averaged 32 millions. Under the British Empire, the *net* land tax has, during the past ten years, averaged 18 millions.

Taxation of Japan.

Not only is the taxation of British India much less than that raised by the Mughal Emperors, but it compares favourably with the taxation of other Asiatic countries in our own days. The only other Empire in Asia which pretends to a civilised government is Japan. I have no special acquaintance with the Japanese revenues; but I find from German statists that over 11 millions sterling are there raised from a population of 34 million people, or deducting certain items, a taxation of about 6s. a head. In India, where we try to govern on a higher standard of efficiency, the rate of actual gross taxation averages 3s. 8d. a head.

Taxation of a Province under the Mughals,

If, instead of dealing with the Imperial revenues as a whole, we concentrate our survey on any one Province, we find these facts brought out in a still stronger light. To take a single instance. After a patient scrutiny of the records, I found that, allowing for the change in the value of money, the ancient revenue of Orissa represented eight times the quantity of the staple food which our own revenue now represents.[1] The native

[1] The evidence on which these statements are based, was published in my *Orissa*, vol. i. pp. 323-329 (Smith, Elder, & Co., 1872).

revenue of Orissa supported a magnificent court with a crowded seraglio, swarms of priests, a large army, and a costly public worship. Under our rule, Orissa does little more than defray the local cost of protecting person and property, and of its irrigation works. In Orissa, the Rájá's share of the crops amounted, with dues, to 60 per cent., and the mildest Native Governments demanded 33 per cent. The Famine Commissioners estimate the land tax throughout British India[1] 'at from 3 per cent. to 7 per cent. of the gross out-turn.' Ample deductions are allowed for the cost of cultivation, the risks of the season, the maintenance of the husbandman and his family. Of the balance, Government *nominally* takes one-third or a half; but how small a proportion this bears to the crop may be seen from the returns collected by the Famine Commissioners. Their figures deal with 176 out of the 191 millions of people in British India. These 176 millions cultivate 188 millions of acres, grow 331 millions sterling worth of produce, and now pay $18\frac{3}{4}$ millions of land revenue. While, therefore, they raise over £1, 15s. worth of produce per acre, they pay to Government under 2s. of land tax per acre. Instead of thus paying $5\frac{1}{2}$ per cent. as they do now, they would under the Mughal rule have been called upon to pay from 33 to 50 per cent. of the crop. The two systems, indeed, proceed upon entirely different principles. The Native Governments, write the Famine Commissioners, often taxed the land 'to the extent of taking from the occupier the whole of the surplus' 'after defraying the expenses of cultivation.'[2] The British Government objects to thus 'sweeping off the whole margin of profit.'

and under the British.

The land tax.

What becomes of the surplus which our Government declines to take? It goes to feed an enormously increased population. The tax-gatherer now leaves so large a margin to the husbandman, that the Province of Bengal, for example, feeds three times as many mouths as it did in 1780, and has a vast surplus of produce, over and above its own wants, for exportation. 'In the majority of Native Governments,' writes the highest living authority on the question,[3] 'the revenue officer takes all he can get; and would take treble the revenue we should

Increase of population.

[1] Report of the Indian Famine Commission, part ii. p. 90, as presented to Parliament 1880.

[2] *Idem*

[3] Report by Mr. Alfred Lyall, C.B., formerly Governor-General's Agent in Rájputána, now Foreign Secretary to the Government of India; quoted in the Despatch of the Governor-General-in-Council to the Secretary of State, 8th June 1880. 'Condition of India,' Blue Book, pp. 36, 37.

Taxation in Native States.

assess, if he were strong enough to exact it. In ill-managed States, the cultivators are relentlessly squeezed: the difference between the native system and ours being, mainly, that the cultivator in a Native State is seldom or never sold up, and that he is usually treated much as a good bullock is treated; *i.e.* he is left with enough to feed and clothe him and his family, so that they may continue to work.' John Stuart Mill studied the condition of the Indian people more deeply than any other political economist, and he took an indulgent view of native institutions. His verdict upon the Mughal Government is that, 'except during the occasional accident of a humane and vigorous local administrator, the exactions had no practical limit but the inability of the peasant to pay more.'

Incidence of taxation in British India.

The Famine Commission, after careful inquiries, state[1] that throughout British India the landed classes pay revenue at the rate of 5s. 6d. per head, including the land tax for their farms, or 1s. 9d. without it. The trading classes pay 3s. 3d. per head; the artisans, 2s.—equal to four days' wages in the year; and the agricultural labourers, 1s. 8d. The whole taxation, including the Government rent for the land, averaged, as we have seen, 3s. 8d. per head during the ten years ending 1879. But the Famine Commissioners declare that 'any native of India who does not trade or own land, and who chooses to drink no spirituous liquor, and to use no English cloth or iron, need pay in taxation only about 7d. a year on account of the salt he consumes. On a family of three persons, the charge amounts to 1s. 9d., or about four days' wages of a labouring man and his wife.'[2]

Gross balance-sheet of British India.

GROSS REVENUES.—But it should be ever borne in mind that the actual taxation of the Indian people is one thing, and the gross revenues of India are another. As explained at pages 456 and 462, the revenues include many items not of the nature of taxation. The two following tables, compiled from the *Parliamentary Abstract for* 1877-78, exhibit the gross imperial revenue and expenditure of India for that year, according to the system of accounts adopted at the time. For the reasons already given, it is practically impossible to analyze these statements in such a way as to show the actual amount raised by taxation, and the actual amount returned in protection to person and property. I have therefore done

[1] Report of the Famine Commission, part ii. p. 93 (folio, 1880).

[2] *Idem.*

this in a separate statement at p. 457. It is equally impossible to compare the gross totals with those for previous years.[1] The only profitable plan is to take some of the items, and explain their real meaning.

TABLE I.—GROSS IMPERIAL REVENUE FOR 1877-78.

Land revenue,	£20,026,036
Tributes and contributions,	675,120
Forest,	664,102
Excise,	2,457,075
Assessed taxes,	86,110
Provincial rates,	238,504
Customs,	2,622,296
Salt,	6,460,082
Opium,	9,182,722
Stamps,	2,993,483
Mint,	443,859
Post office,	847,694
Telegraph,	358,430
Law and justice,	813,221
Public works (ordinary),	371,539
Irrigation,	495,142
State railways,	548,528
Guaranteed railways (net),	6,129,765
Miscellaneous,	3,555,593
TOTAL,	£58,969,301
Deficiency of Gross Revenue as compared with Gross Expenditure,	£3,543,087

TABLE II.—GROSS IMPERIAL EXPENDITURE FOR 1877-78.

Collection—Land,	£2,531,325
,, Salt,	539,858
,, Opium,	2,661,266
,, Miscellaneous,	2,330,902
Allowances under treaties,	1,646,093
Interest on debt,	5,028,318
Administration,	1,805,368
Law and justice,	3,319,673
Marine and inland navigation,	542,202
Ecclesiastical,	158,039
Medical,	611,819
Carry forward,	£21,174,863

[1] Nor will the land tax precisely tally with the return at p. 457 for 1877-78 (although it does so very nearly), as it represents a different stage in the final adjustment. The other items ought to be identical with these for the same year given at p. 457.

Brought forward,	£21,174,863
Political agencies,	468,975
Police,	2,158,237
Education,	738,020
Stationery and printing,	425,644
Loss by exchange,	1,653,377
Army,	16,639,761
Famine relief,	5,345,775
Provincial payments,	247,034
Public works (ordinary),	3,676,274
Productive public works—Maintenance,	791,601
,, ,, ,, Interest and surplus profits,	6,572,955
Miscellaneous,	2,619,872
TOTAL,	£62,512,388

Analysis of Indian revenues in 1878.

These tables show how large a portion of the gross revenue is not of the nature of taxation. Public works, including railways, alone yield over 7½ millions sterling, or nearly 13 per cent. of the total. Adding the items of post office and telegraphs, which also represent payment for work done or services supplied, the proportion would rise to about 14 per cent. Then the sum of 9 millions gross, or 6½ millions net, derived from opium, being somewhat more than an additional 15 per cent. of the gross revenue, is not a charge upon the native taxpayer, but a contribution to the Indian exchequer by the Chinese consumer of the drug. Add to these the tributes from non-British States, produce of the forests, etc., and one-third of the total gross revenue is accounted for. The land revenue, amounting to 20 millions in an exceptionally bad year (1877-78), cannot be passed over so lightly. Whether it should be properly regarded as a tax, or only as rent, is a problem for political economists to settle; but in any case, it is paid without question, as an immemorial right of the State. It yields 34 per cent., or more than one-third of the gross revenue. The whole revenue of British India of the nature of actual taxation, including Land Revenue, Excise, Assessed Taxes, Provincial Rates, Customs, Salt, and Stamps, amounted in 1878 to 34¾ millions, or 3s. 7¾d. per head. The rate of actual taxation was about 4s. per head in 1880.

Not of the nature of taxation.

Items of taxation summarized.

Turning to some of the items, excise and stamps are practically creations of British rule. The Excise is a tax upon intoxicating liquors and deleterious drugs, levied both on the manufacture and on the sale, according to different systems in different Provinces. Like the corresponding duty in England, it is voluntarily incurred, and presses hardest upon the lowest

classes. But unlike the English excise, it can hardly be called an elastic source of revenue, for the rate is intentionally kept so high as to discourage consumption. No duty whatever is levied upon tobacco. Stamps, as in England, form a complex item. The greater part is derived from fees on litigation, and only a comparatively trifling amount from stamps proper on deeds of transfer, etc. Customs are divided into import and export duties, both of which have been so greatly lightened or abolished in recent years, that their permanent maintenance may be considered doubtful. At the present time (1881), import duties, usually at the rate of 5 per cent. *ad valorem*, are levied upon a list of commodities.[1] The reduced duty still remaining on cotton goods forms a difficult question for Indian financiers. All duties on exports have now been removed, with the single exception of that on rice, which brings in about £500,000 a year. This is levied at the rate of 3 *ánnás* a *maund*, or about 6d. per cwt., being equivalent to an *ad valorem* rate of about 10 per cent. The salt tax is a matter of more importance, and of greater difficulty. It is an impost upon an article of prime necessity, and it falls with greatest severity upon the lowest classes. On the other hand, it may be urged that it is familiar to the people, and levied in a manner which arouses no discontent; and that it is the only means available of spreading taxation proper over the community. The reforms of 1878, referred to on p. 451, have tended to equalize the incidence of the salt tax over the entire country, with the immediate result of abolishing arbitrary and vexatious customs lines, and with a view to its ultimate reduction.

Excise. Stamps. Customs.

GROSS EXPENDITURE.—Putting aside the cost of collection and civil administration, which explain themselves, the most important charges are the Army, Interest on Debt, Famine Relief, Loss by Exchange and Public Works, to which may be added the complex item of payments in England. Military expenditure averages about 16 millions, and in 1879 was 17 millions. Of the 16 millions, about 12 represent payments in India, and 4 millions payments in England. Regimental pay accounts for nearly 7 millions, the commissariat for about 2 millions in India, and stores for another million in England. In 1877-78, the total of the Indian public debt and obligations was returned

Indian Expenditure in 1878. Army expenditure. Public debt.

[1] The Customs Tariff of British India, with the rates on each article, and the duties realized 1878-79, are given in full as Appendix X. p. 714.

at over 146½ millions sterling, being just 15s. 4d. per head of the population. Part of this was of the nature of obligations or deposits not bearing interest. The total charge for interest was 5 millions, being at the rate of 3½ per cent. on the whole. But this excludes the interest on capital expended on railways, amounting to 120 millions in 1879.

Its growth. In 1840, the debt amounted to 30 millions, and gradually increased to 52 millions in 1857. Then came the Mutiny, which added nearly 40 millions of debt in four years. The rate of increase was again gradual, but slow, till about 1874, when famine relief conspired with public works to cause a rapid augmentation, which has continued to the present time. The most significant feature in this augmentation is the larger proportion of debt contracted in England. During the last ten years, the silver debt has risen only 10 millions, whereas the gold debt has risen 28 millions. No charge has recently pressed harder upon the Indian exchequer than that of Famine Relief. Apart from loss by reduced revenue, the two famines of 1874 and 1877-78 have caused a direct expenditure on charitable and relief works amounting in the aggregate to nearly 15 millions.

Loss by exchange. Loss by exchange is an item which has lately figured largely in the accounts, and is due to the circumstance that large payments in gold require to be made in England by means of the depreciated rupee. In 1869-70, the loss by exchange was more than balanced by an entry of gain by exchange on the other side of the ledger. In 1876-77, the loss attained its maximum of nearly 1¾ million net.

Public Works expenditure. The expenditure on Public Works is provided from three sources—(1) the capital of private companies, with a Government guarantee; (2) loans for the construction of railways and canals; (3) current revenue applied towards such works as are not directly remunerative. In 1877-78, the total capital raised by the guaranteed railway companies was 95½ millions; the net earnings were 5 millions, showing a clear balance-sheet as regards payment of interest. In the ten years ending 1877-78, 29 millions had been expended under the second head upon works classed as reproductive or extraordinary, of which 19 millions were appropriated to State railways and 10 millions to irrigation. The amount spent from revenue upon ordinary public works in 1877-78 was nearly 3¾ millions. The total capital invested on both guaranteed and State railways up to 1879 was, as already stated, 120 millions sterling.

Railways. Irrigation.

Independent of imperial finance, and likewise independent

of certain sums annually transferred from the imperial exchequer to be expended by the provincial governments, there is another Indian budget for local revenue and expenditure. This consists of an income derived mainly from cesses upon land, and expended to a great extent upon minor public works. In 1877-78, local revenue and expenditure were each returned at about $3\frac{1}{2}$ millions.

Local finance.

Yet a third budget is that belonging to the municipalities. The three Presidency towns of Calcutta, Madras, and Bombay had in 1876-77 a total municipal income of £668,400, of which £519,322 was derived from taxation, being at the rate of 7s. per head of population. In addition, there were 894 minor municipalities, with a total population of 12,381,059. Their aggregate income was £1,246,974, of which £979,088 was derived from taxation, being at the rate of 1s. 7d. per head. In the Presidency towns, rates upon houses, etc. are the chief source of income; but in the District municipalities, excepting Bengal, octroi duties are more relied upon. The chief items of municipal expenditure are conservancy, roads, and police.

Municipal finance.

At the present time (1880), the entire constitution of the Indian army is under the consideration of a Commission. The existing organization is based upon the historical division into the three Presidencies of Bengal, Madras, and Bombay. There are still three Indian armies, each composed of both European and Native troops, with their own Commanders-in-Chief and separate staff, although the Commander-in-Chief in Bengal exercises supreme authority over the other two. There is also a fourth army, known as the Punjab Frontier Force, which, although on the Bengal establishment, is under the immediate orders of the Lieutenant-Governor of the Province. The Bengal army garrisons Bengal Proper and Assam, the North-Western Provinces and Oudh, a portion of Central India and Rájputána, and the Punjab. In 1877-78, its total strength was 104,216 officers and men, of whom 63,933 were native troops. In the Bengal native army, the distinguishing feature is the presence of 6 batteries of artillery, and an exceptionally large proportion of cavalry, both of which arms are massed in the Punjab. The Madras army extends beyond the limits of that Presidency into Mysore, the Nizám's Dominions, and the Central Provinces, and also across the Bay into Burma. In 1877-78, its total strength was 47,026 officers and men, of whom 34,293 were native troops. In the Madras native army, the distinguishing features are the large proportion of sappers and

Constitution of the army.

The armies of the three Presidencies.

miners, the small proportion of cavalry, and the entire absence of artillery. The Bombay army occupies Bombay Proper and Sind, the Native States of Central India, and the outlying station of Aden in the Red Sea. In 1877-78, it consisted of 38,355 officers and men, of whom 26,645 were native troops. In that year, therefore, the total established strength of the European and Native army in British India (exclusive of native artificers and followers) consisted of 189,597 officers and men, of whom 64,276 were Europeans, and 124,871 were native troops. The four chief arms of the service were thus composed:—(1) Artillery, 12,239 European and 901 native; (2) cavalry, 4347 European and 18,346 native; (3) engineers, 357 European (all officers) and 3239 native; (4) infantry, 45,962 European and 102,183 native.

Police. Excluding the village watch, which is still maintained as a subsidiary police in many parts of the country, the regular police of all kinds in British India in 1877 consisted of a total strength of 157,999 officers and men, being an average of 1 policeman to about each 6 square miles of British area, or to about each 1200 of the population within our police area. The total cost of maintenance was £2,511,704, of which £2,165,073 was payable from imperial or provincial revenues. The former figure gives an average cost of under £3 per square mile of area, and under 3d. per head of population. The average pay of each constable is Rs. 7 a month, or £8, 8s. a year.

Jails. In 1877, the total number of places of confinement in British India, including central and district jails and lock-ups, was 636; the total number of prisoners admitted during the year, or remaining over from the previous year, was 587,288; the daily average was 113,065 males and 5369 females—total, 118,456. The latter figures show 1 male prisoner to every 868 of the male population, 1 female prisoner to every 17,244 of the female population, and 1 prisoner to every 1618 of the total population of both sexes, within criminal jurisdiction. The places of transportation for all British India are the Andaman and Nicobar Islands, where there are two penal establishments, containing, in 1877, a daily average of 9145 convicts.

Education. PUBLIC INSTRUCTION in India is directly organized by the State, at least in its higher departments, and is assisted throughout

by grants-in-aid, under careful inspection. But at no period of its history has India been without some system of popular education. The origin of the *Deva-Nágari* alphabet is lost in antiquity, though it is generally admitted not to be of indigenous invention.[1] Inscriptions on stone and copper, the palm-leaf records of the temples, and in later days the wide-spread manufacture of paper, all alike indicate, not only the general knowledge, but also the common use, of the art of writing. From the earliest times the Bráhman caste preserved, first by oral tradition, then in manuscript, a literature unrivalled alike in its antiquity and in the intellectual subtlety of its contents.[2] The Muhammadan invaders introduced the profession of the historian, which reached a high degree of excellence, as compared with European writers of the same period. Through all changes of government, vernacular instruction has always been given, at least to the children of respectable classes, in every large village. On the one hand, the *tols*[3] or seminaries for teaching Sanskrit philosophy at Benares and Nadiyá recall the schools of Athens and Alexandria; on the other, the importance attached to instruction in accounts reminds us of the picture which Horace has left of a Roman education. Even at the present day, a knowledge of reading and writing, as taught by Buddhist monks, is as widely diffused throughout Burma as in many countries of Europe. Our own efforts to stimulate education have been most successful, when based upon the existing indigenous institutions.

In ancient India.

Village schools.

Sanskrit *tols.*

During the early days of the East India Company's rule, the promotion of education was not recognised as a duty of Government. Even in England, at that time, education was entirely left to private, and mainly to clerical, enterprise. A State system of instruction for the whole people is an idea of the latter half of the present century. But the enlightened mind of Warren Hastings anticipated his age by founding the Calcutta Madrasa for Muhammadan teaching (1781), and by extending his patronage alike to Hindu *pandits* and European students. Wellesley's schemes of imperial dominion led to the establishment of the college of Fort William for English officials. Of the Calcutta seminaries, the Sanskrit College was founded in 1824, when Lord Amherst was Governor-General; the Medical College, by Lord William Bentinck in 1835; the Húglí Madrasa, by a wealthy native gentleman in 1836. The Sanskrit College at Benares had been established in 1791, the Agra College in 1823.

Our first efforts at education.

Calcutta *Madrasa* and other Colleges.

[1] See *ante*, p. 216. [2] See *ante*, p. 215. [3] See *ante*, p. 210.

Mission schools.

Meanwhile, the Christian missionaries made the field of vernacular education their own. Discouraged by the authorities, and under the Company liable to deportation, they not only devoted themselves with courage to their special work of evangelization, but they were also the first Europeans to study the vernacular dialects spoken by the people. Two centuries ago, the Jesuits at Madura, in the extreme south, had so mastered Tamil as to leave works in that language which are still acknowledged as classical by native authors. About 1810, the Baptist mission at Serampur, near Calcutta, first raised Bengali to the rank of a literary dialect. The interest of the missionaries in education, which has never ceased to the present day, although now comparatively overshadowed by Government activity, had two distinct aspects. They studied the vernacular, in order to preach to the people, and to translate the Bible; they also taught English, as the channel of Western knowledge.

State system of education.

After long and acrimonious controversy between the advocates of English and of vernacular teaching, the present system was based, in 1854, upon a comprehensive despatch sent out by Sir C. Wood (afterwards Lord Halifax). In the midst of the tumult of the Mutiny, the three Indian Universities were calmly founded at Calcutta, Madras, and Bombay in 1857.[1] Schools for teaching English were by degrees established in every District; grants-in-aid were extended to the lower vernacular institutions, and to girls' schools; and public instruction was erected into a Department in every Province, under a Director, with a staff of Inspectors. In some respects this scheme may have been in advance of the time; but it supplied a definite outline, which has gradually been filled up. A network of schools has now been extended over the country, graduated from the indigenous village institutions up to the highest colleges. All alike receive some measure of pecuniary support, granted under the guarantee of regular inspection; while a series of scholarships at once stimulates efficiency, and opens a path to the university for the children of the poor. In 1877-78, the total number of educational institutions of all sorts in British India was 66,202, attended by an aggregate of 1,877,942 pupils, showing an average of 1 school to every 14 square miles, and one pupil to every hundred of the population. In the same year, the total expenditure upon education from all sources was £1,612,775, of which £782,240 was

Indian universities.

Educational statistics, 1878.

[1] By Act II. of 1857 for Calcutta; by Act XXII. of 1857 for Bombay; and by Act XXVII. of 1857 for Madras.

contributed by the provincial governments, £258,514 was derived from local rates, and £32,008 from municipal grants. These items may be said to represent State aid; while endowments yielded £37,218, subscriptions £105,853, and fees and fines £277,039. The degree in which education has been popularized, and private effort has been stimulated, may be estimated from the fact that in Bengal the voluntary payments are now equal to the Government grants.

The Indian Universities.

The three Universities of Calcutta, Madras, and Bombay were incorporated in 1857, on the model of the University of London. They are merely examining bodies, with the privilege of conferring degrees in arts, law, medicine, and civil engineering. Their constitution is composed of a Chancellor, Vice-Chancellor, and Senate. The governing body, or Syndicate, consists of the Vice-Chancellor and certain members of the Senate. It has lately been proposed to found a fourth University, on the same plan, at Lahore for the Punjab. Though not themselves places of instruction, the Universities control the whole course of higher education by means of their examinations. The entrance examination for matriculation is open to all; but when that is passed, candidates for higher stages must enrol themselves in one or other of the affiliated colleges. In the ten years ending 1877-78, 9686 candidates successfully passed the entrance examination at Calcutta, 6381 at Madras, and 2610 at Bombay; total, 18,610. Many fall off at this stage, and very few proceed to the higher degrees. During the same ten years, 952 graduated B.A. and only 254 M.A. at Calcutta; 496 B.A. and 14 M.A. at Madras; 217 B.A. and 28 M.A. at Bombay: total of B.A.'s and M.A.'s in the ten years, 1961. Calcutta possesses by far the majority of graduates in law and medicine, while Bombay is similarly distinguished in engineering. In 1877-78, the total expenditure on the four Universities was £22,093.

Their constitution.

Colleges.

The colleges or institutions for higher instruction may be divided into two classes,—those which teach the arts course of the Universities, and those devoted to special branches of knowledge. According to another principle, they are classified into those entirely supported by Government, and those which only receive grants-in-aid. The latter class comprises the missionary colleges. In 1877-78, the total number of colleges, including medical and engineering colleges and Muhammadan *madrasas*, was 82, attended by 8894 students. Of these, as many as 35 colleges, with 3848 students, were in Lower Bengal; and 21 colleges, with 1448 students, in Madras. In the same

year, the total expenditure on the colleges was £186,162, or at the rate of £21 per student.

Boys' schools: The boys' schools include many varieties, which may be subdivided either according to the character of the instruction given, or according to the proportion of Government aid which upper schools; they receive. The higher schools are those in which English is not only taught, but is also used as the medium of instruction. They educate up to the standard of the entrance examination at the Universities, and generally train those candidates who seek employment in the upper grades of Government service. One of these schools, known as the *zilá* or District school, is established at the headquarters station of every District; and many others receive grants-middle schools; in-aid. The middle schools, as their name implies, are intermediate between the higher and the primary schools. Generally speaking, they are placed in the smaller towns or larger villages; and they provide that measure of instruction which is recognised to be useful by the middle classes themselves. Some of them teach English, but others only the vernacular. This class includes the *tahsíli* schools, established at the headquarters of every *tahsíl* or Subdivision in the North-Western Provinces. In 1877-78, the total expenditure on both higher and middle schools was £478,250. The lower or primary schools. primary schools complete the series. They are dotted over the whole country, and teach only the vernacular tongue. Their extension is the best test of the success of our educational system.

Increase of primary schools: in Bengal; No uniformity prevails in the primary schools throughout the several Provinces. In Bengal, up to the last few years, primary instruction was sadly neglected; but since the reforms inaugurated by Sir G. Campbell in 1872, by which the benefit of the grant-in-aid rules was extended to the *páthsálás* or road-side schools, this reproach has been removed. In 1871-72, the number of primary schools under inspection in Lower Bengal was only 2451, attended by 64,779 pupils. By 1877-78, these schools had risen to 16,042, and the number of pupils to 360,322, being an increase of about sixfold in six years. In the latter year, the expenditure on them from all sources was £78,000; towards which Government contributed only £27,000, thus showing how State aid stimulates private outlay.

in North-Western Provinces; The North-Western Provinces owe their system of primary instruction to their great Lieutenant-Governor Mr. Thomason, whose constructive talent can be traced in every branch of the administration. In addition to the *tahsíli* or middle schools

already referred to, he drew up a scheme for establishing *halkabandi* or primary schools in every central village (whence their name), to which the children from the surrounding hamlets might resort. His scheme has since been largely developed by means of the educational cess added to the land revenue. Sir William Muir, during his long service in the North-Western Provinces, ending in the Lieutenant-Governorship, did much for both the primary and the higher education of the people. In Bombay, the primary schools are mainly supported out of local funds raised by a similar cess added to the land revenue. in Bombay;

In British Burma, on the other hand, primary education is still left to a great extent in the hands of the Buddhist monks, who receive no pecuniary aid from Government. These monastic schools are only open to boys; but there are also lay teachers who admit girls to mixed classes. The local administration shows a wise disposition to avail itself of the indigenous monastic system. Government has very few schools of its own in Burma, the deficiency being supplied by several missionary bodies, who obtain State aid. In some localities of the Madras Presidency, also, the missionaries possess a practical monopoly of primary education at the present day. In 1877-78, the amount of money expended upon lower and primary schools in British India was £406,135, or just one-fourth of the total educational budget. in Burma; in Madras.

Of late years something has been done, although not much, to extend the advantages of education to girls. In this, as in other educational matters, the missionaries have been the pioneers of progress. In a few exceptional places, such as Tinnevelli in Madras, the Khási Hills of Assam, and among the Karen tribes of Burma, female education has made real progress; for in these localities the missionaries have sufficient influence to overcome the prejudices of the people. But elsewhere, even in the large towns and among the English-speaking classes, all attempts to give a modern education of women are regarded with scarcely disguised aversion, and have obtained but slight success. Throughout the North-Western Provinces, with their numerous and wealthy cities, and a total female population of 15 millions, only 6550 girls attended school in 1877-78. In Bengal, with just double the inhabitants, the corresponding number was less than 12,000. Madras, British Burma, and to a small degree, Bombay and the Punjab, are the only Provinces that contribute to the following statistics in any tolerable proportion:—Total girls' schools in Girls' schools.

1877-78, 2002; number of pupils, 66,615: mixed schools for boys and girls, 2955; pupils, 90,915: total amount expended on girls' schools, £78,729, of which £27,000 was devoted to the 12,000 girls of Bengal. Efforts have been made by the State to utilize the female members of the Vishnuvite sects in female education, but without permanent success.[1]

Normal and other special schools.

In 1877-78, the normal and technical schools numbered 155, with a total of 6864 students; the total expenditure was £54,260, or an average of under £8 per student. School-mistresses, as well as masters, are trained in these institutions; and here also the missionaries have shown themselves active in anticipating a work which Government subsequently took up. Of schools of art, the oldest is that founded by Dr. A. Hunter at Madras in 1850, and taken in charge by the Education Department in 1856. This institution, and the Art Schools at Calcutta and Bombay, founded on its model, have been successful in developing the industrial capacities of the people, and in training workmen for public employment. Their effect on native art is more doubtful, and in some cases they have tended to supersede native designs by hybrid European patterns. Museums have been established at the Provincial capitals and in other large towns. In 1877-78, the number of normal, art, or technical schools was 104, with 9121 pupils; the expenditure from all sources was £80,197, or an average of nearly £9 per pupil. Schools for Europeans have also attracted the attention of Government. Foremost among special schools are the asylums in the hills for the orphans of British soldiers (*e.g.* Utakamand and Sanáwar), founded in memory of Sir Henry Lawrence.

Vernacular press.

Closely connected with the subject of education is the steady growth of the vernacular press, which is ever active in issuing both newspapers and books. The missionaries were the first to cast type in the vernacular languages, and to employ native compositors. The earliest vernacular newspaper was issued in Bengali by the Baptist Mission at Serampur, in 1818. For many years the vernacular press preserved the marks of its origin, being limited almost exclusively to theological controversy. The missionaries were encountered with their own weapons by the Theistic sect of the Bráhma Samáj, and also by the orthodox Hindus. So late as 1850, most of the vernacular newspapers were still sectarian rather than political. But during the last twenty years, the vernacular press has gradu-

First newspaper.

The theological period.

The political period.

[1] See *ante*, p. 310.

ally risen into a powerful engine of political discussion. The number of newspapers regularly published in the several vernaculars was lately returned at 230. The aggregate number of copies issued is estimated[1] at about 150,000; but the circulation proper, that is, the actual number of readers, is infinitely larger. In Bengal, the vernacular press suffers from the competition of English newspapers, some of which are entirely owned and written by natives. In the North-West, from Lucknow to Lahore, about 100 newspapers are printed in Hindustání or Urdu, the vernacular of the Muhammadans throughout India. Many of them are conducted with considerable ability and enterprise, and may fairly be described as representative of native opinion in the large towns. The Bombay journals are almost equally divided between Marathí and Gujaráthí. Those in the Marathí language are characterised by the traditional independence of the race of Sivají; the Gujarathí newspapers are the organs of the Pársís, and of the trading community generally. The vernacular newspapers of Madras, printed in Támil and Telugu, are politically unimportant, being still for the most part devoted to religion.

Statistics of native journalism.

As regards books, or rather registered publications, in the vernacular languages, Bengal takes the lead; while the Punjab, Bombay, the North-Western Provinces, and Madras follow in order. I have, in a previous section, alluded to the works published in the native languages of India in the various departments of literature during 1877.[2] The following figures refer to the year 1878, and comprise the whole registered publications, both in the native language and in English. Total of registered publications, 4913. Of these, 576 were in English or European languages, 3148 in vernacular dialects of India, 516 in the classical languages of India, and 673 were bi-lingual, or in more than one language. No fewer than 2495 of them were original works, 2078 were republications, and 340 were translations,—total, 4913. Religion engrossed 1502 of these works; poetry and the drama, 779; fiction, 182; natural science, 249; besides 43 works on philosophy or moral science. Language or grammar was the subject of 612; and law of no fewer than 249 separate works. History had only 96 books devoted to it; biography, 22; politics, 7; and travels or voyages, 2. These latter numbers, contrasted with the 1502 books on religion, indicate the working of the Indian mind.

Books.

[1] Mr. R. Lethbridge, *Contemporary Review*, March 1880.

[2] *Ante*, 214-239 *passim*.

Christian population of India.

CHRISTIAN MISSIONS.—Frequent mention has been made of the educational activity of the missionaries. It may be well here to state the facts regarding the general results of their labours. The Christian population, European and native, of British India in 1871 numbered 897,682, or less than a half per cent. of the total population.

CHRISTIAN POPULATION IN BRITISH INDIA.

Province.	No. of Christians.	Province.	No. of Christians.	Province.	No. of Christians.
Bengal, . .	90,763	Punjab, . .	22,154	British Burma,	52,299
Assam, . .	1,947	C. Provinces, .	10,477	Madras, . .	533,760
N.W. Provinces,	22,196	Berar, . .	903	Bombay, . .	126,063
Ajmere, . .	1,273	Mysore, . .	25,676		
Oudh, . .	7,761	Coorg, . .	2,410	Total, . .	897,682

The ascertained Christians in three of the Native States number 620,295, or over 1 per cent. of the whole feudatory population. But, as a matter of fact, the Christians in Native States are almost entirely confined to the following territories, where they exceed 20 per cent. of the local inhabitants:—

CHRISTIAN POPULATION IN THREE NATIVE STATES.

State.	Number.	Percentage to whole Population.
Travancore (1875), ...	468,518	20·29
Cochin (1875), ...	140,417	23·16
Pudukottai, ...	11,360	...
Total, . . .	620,295	

Statistics of native Christians.

The total number of Christians in India, British and Feudatory, according to official returns, was therefore a little under 1½ million. According to the missionary returns, the Roman Catholics claim 1,317,782, and the Protestants about 325,000. In round numbers, we may say that the Christians number over 1½ million, of whom about 1⅓ million are Roman Catholics, and under one-third of a million are Protestants.

It will be seen from the above tables that Christians are most numerous in the south, especially in Travancore and Cochin. The Dravidian peoples have always been most accessible to Christian teaching. In British India, the percentage of Christians is highest in Tinnevelli, where it reaches 6 per cent. Denominational statistics are incomplete; but in the Madras

Presidency, out of a total of 533,760 Christians, 416,068 are Roman Catholics. These are divided into 17,341 Europeans and Eurasians, and 398,727 natives. The 117,692 Protestants in Madras consist of 23,538 Europeans, etc., and 94,154 natives. In Travancore State, out of 468,518 Christians, only 61,593 are Protestants. Out of 897,682 Christians in British India, 718,002 are natives. Government maintains an Ecclesiastical Department for its European soldiers and officials. The State clerical establishment is shown as follows, by a Parliamentary return of 1880:—

The Ecclesiastical Department.

INDIAN ECCLESIASTICAL DEPARTMENT, 1879.

	Salaries and Allowances, 1876-77.	No. of Chaplains or Ministers paid or subsidized, 1879.	Number of European Troops and Officers ordinarily attending Church, 1879.	Number of other Government Servants (excluding Wives and Children) ordinarily attending Church, 1879.	Total of Government Servants attending Church.
Church of England, . .	£129,627	201	23,842	3191	27,033
Church of Scotland, . .	11,018	21	2,782	479	3,261
Church of Rome, . . .	67,690	61	10,586	621	11,207
Total, ...	£208,335	283	37,210[1]	4291	41,501

INDIAN ECCLESIASTICAL STAFF.

	Bishops.		Arch-deacons.		Chaplains.			Registrars	
	No.	Pay.	No.	Pay.	No.	Pay (sen.).	Pay (jun.).	No.	Pay.
Church of England—									
Calcutta, . .	1	£4597	1	£1280	} 85	£960	£600	1	£480
Lahore, . .	1	960	1	960					
Rangoon, . .	1	960	1	960					
Madras, . .	1	2560	1	1280	39	960	600	1	256
Bombay, . .	1	2560	1	1280	29	960	600	1	180
Church of Scotland—									
Bengal, . .	...	...	...	...	5	} 960	550	...	...
Madras, . .	...	...	...	...	4	to	to	...	...
Bombay. . .	...	...	...	...	4	1351	600	...	...

In addition to the above, Government pays or subsidizes Roman Catholic priests as chaplains to the troops in many

Other ecclesiastical grants.

[1] In 1879, many European soldiers were absent in the field. Their ordinary strength is reckoned at about 60,000; and their average church attendance in 1876-77 was returned at 50,800.

military stations, and also missionaries and ministers of various denominations in stations where there are no chaplains. It also builds, furnishes, and repairs churches, both Catholic and Protestant, for the use of soldiers, or pays for their sittings. The above tables give the Government returns; but in describing below the state of Christian missions, the facts and figures as furnished by the missionaries will be followed.

Origin of Christianity in India.

The origin of Christianity in India is obscure. Early tradition, accepted universally by Catholics and generally by Protestants, connects it with St. Thomas the Apostle, who is said to have preached in the Malayálam country, in Tinnevelli, and on the east coast; to have founded several churches; and finally, to have been martyred at the Little Mount, near Madras. The Catholic tradition narrates further, that a persecution arose not long after, in which all the priests perished. Many years later, the Patriarch of Babylon, then in communion with Rome, heard of the desolate state of the church, and sent them bishops of the Chaldean or Syrian rite, the existence of which to the present day in the Malayálam country is thus explained. About 486 A.D., Nestorianism spread from Babylon into Malabar.

The orthodox account.

Other accounts.

Modern authorities are not wanting who consider that there is no evidence for St. Thomas's labours in Madras or India proper; and, certainly, in the early writers the word India had a wide application, and might mean several parts of Asia. They maintain that the first Indian Christians were Manicheans, or gnostics. Afterwards, when Nestorianism prevailed in Persia, it spread into Southern India; and numerous references are made to Nestorians in India by the travellers of the Middle Ages. Our own Alfred the Great sent Sighelm of Sherburn to the shrine of St. Thomas, in India, in 883 A.D.

First Catholic mission, 1500 A.D.

The first Roman Catholic mission arrived in India from Portugal in 1500, and was composed of Franciscan monks. In the same year, Father Pedro de Covilham was martyred. For some time their work was almost confined to the Portuguese settlements, although King Emmanuel (1498-1521) and his son John III. (1521-57) had much at heart the conversion of the Indians. The first Bishop in India was Duarte Nunez, a Dominican (1514-17); and John de Albuquerque, a Franciscan, was the first bishop of Goa (1539-53). With St. Francis Xavier, who arrived in 1542, began the labours of the Society of Jesus in the East, and the progress of Christianity became more rapid. St. Francis' name is associated with the

Xavier and the Jesuits, 1542.

Malabar coast, and with the maritime tracts of Madura and Southern Madras. He completed the conversion of the Paravars in Tinnevelli District.[1] His tomb is at Goa.[2] Punnaikáyal, in Tinnevelli, was the scene, in 1549, of the death of Father Antonio Criminale, the protomartyr of the Society of Jesus; and in the following year, several others sacrificed their lives in preaching the gospel. Goa became an Archbishopric in 1577. But for the labours of the Catholic priests, the Nestorians above mentioned would have relapsed into heathenism. About 1596, the Archbishop of Goa, Alexis de Menezes, an Augustinian, succeeded in reconciling the Indian Nestorians to Rome; and at the Synod of Diamper (Udayompura, near Cochin) in 1599, the affairs of the Indian Christians were settled. The use of the Syrian rite was retained after it had been purged of its Nestorianism. About fifty years later, emissaries from Babylon caused the whole community to relapse into Nestorianism; and the wars between the Dutch and Portuguese at this time impeded the action of the Catholic missionaries. But in 1660, a mission of Carmelite priests arrived, and succeeded in recovering nearly all the Indian Christians to Rome.

Syrian rite reformed, but retained, 1599.

A certain number cling to the Nestorian rite to this day, and are split up into various factions, with several rival bishops, whose disputes come from time to time before our courts. These divisions have not been cemented by the labours of the Church Missionary Society, which from 1816 to 1838 fostered a connection with the Nestorians, and gave liberal aid to their schools.

Nestorian remnants.

The Jesuit mission to the Madras coast dates from 1606, and is associated with the names of Robert de Nobili (its founder, who died 1656), John de Britto (martyred in Madura 1693), Beschi the great scholar (who died about 1746), and other illustrious Jesuits, chiefly Portuguese.[3] They laboured in Madura, Trichinopoli, Tanjore, Tinnevelli, Salem, etc. The mission of the Karnatic, also a Jesuit mission, was French in its origin, and due in some measure to Louis XIV. in 1700. Its centre was Pondicherri.

The Madras Jesuits.

The early Jesuit missions are particularly interesting. Their priests and monks became perfect Indians in all secular matters, dress, food, etc., and had equal success among all

Good work done by the Jesuits.

[1] See article TINNEVELLI DISTRICT, *Imperial Gazetteer*, vol. ix.

[2] See article GOA, *Imperial Gazetteer*, vol. iii. pp. 395 and 377-379.

[3] See articles MADURA and TINNEVELLI, *Imperial Gazetteer*, vols. vi. and ix.

castes, high and low. The letters of the Jesuits form for a long period the chief materials for the social history of the southern Districts. They had also numerous although less important missions in the north of India. During the 17th and 18th centuries, religious troubles and difficulties arose in Southern India through the action of the missionaries, as to caste observances, which were misrepresented in Europe. The Portuguese Government claimed to appoint the Archbishop of Goa; and the Dutch adventurers persecuted the Catholics along the coast. The literary activity of the missionaries was, however, very great. Their early efforts in the cause of education, and in printing books in the various languages, are remarkable. De Nobili and Beschi have been named. Fathers Arnauld and Calmette should not be forgotten. The work of the missions was brought to a termination by political events in Europe.

The Jesuits suppressed, 1759-73.

In 1759, Portugal broke up the Society of Jesus within its dominions, seized its property, and imprisoned its members. France did the same in 1764; and to prevent greater evils, Clement XIV. in 1773 was forced to suppress the whole Society. The French Revolution followed. These events deprived the Indian Jesuit missions alike of priests and of resources, and for a long time they languished, served in the south only by a few priests from Goa and Pondicherri. That dismal period, however, presents some illustrious names; among them two well-known writers, the Abbé Dubois of Mysore, and the Carmelite Fra Paolino de San Bartholomeo (in India 1774-90). In the absence of priests to sustain the courage of the Christians, every occasional or local persecution told. Tipú, about 1784, forcibly circumcised about 30,000 Catholics of Kanara, and deported them to the country above the Gháts. Many native Christians lived and died without ever seeing a priest; they baptized their own children, taught them the prayers, and kept up daily worship in their churches. In 1814, the Society of Jesus was re-established; and under Gregory XVI. (1831-46), its missions began a new life, and have since made great progress. Their prosperity is, however, much hampered by the action taken in Europe against the religious orders. The claims of Portugal to appoint the Archbishop of Goa, and through him to regulate the clerical patronage, as opposed to the claims of the Pope, have occasioned schisms in the past, and still give rise to discord. The native Roman Catholics, as already stated, number about $1\frac{1}{3}$ million.

The Jesuits re-established, 1814.

Roman Catholic missions are maintained by many of the

European nations, and are nearly equally divided between the secular and regular clergy. Almost every mission contains a mixture of races among its priests; even Holland, Spain, and Germany being represented. Although all are directed by Europeans, at least seven-eighths of the Roman priests are natives. It is also worthy of remark, that in the list of bishops during the last 300 years the names of several natives are found, some of them Bráhmans. The Roman Catholic missions are presided over by bishops (vicars and prefects apostolic), the delegates of the Pope, who governs the missions himself, without the intervention of the hierarchy. Such is usually the case in heathen countries. Side by side with the sixteen vicars-apostolic, who are bishops *in partibus infidelium*, the Archbishop of Goa has an extraordinary jurisdiction over a certain number of Catholics outside his diocese, and scattered over all India, but chiefly found in the south. The jurisdiction of the prefect-apostolic of Pondicherri is confined to the French possessions, and in Pondicherri itself he has jurisdiction only over 'those who wear hats.' As the ecclesiastical and civil divisions of India do not correspond, it is difficult to compare mission with official statistics. The Catholics in French territory number 33,544, and in Portuguese territory, 245,318. This leaves 1,038,940 for British India and the Native States. They are most numerous in the Native States of Travancore and Cochin (comprised in the vicariates of Verapoly and Quilon). The archdiocese of Goa with 660 priests, nearly all natives, in a very small territory containing over 240,000 Catholics, is a witness to the sternly proselytizing influence of the Portuguese. Verapoly, the smallest of the Roman Catholic vicariates, contains the largest number of priests and Catholics. These are chiefly the descendants of the Nestorians converted to Rome in the 16th century, and are divided into two classes—of the Syrian rite, 141,386, and of the Latin rite, 80,600. They are directed by 14 European Carmelite priests, and by 375 native priests, 39 of the Latin rite, and 336 of the Syrian rite. The Pondicherri and Madura vicariates represent parts of the famous Jesuit missions of Madura and of the Karnatic. The statistics of Protestant and Catholic Christians in the Madras Presidency have already been given (p. 475). In Bombay city, and along the fertile maritime strip or Konkan between the Western Gháts and the sea, the Roman Catholics form an important section of the native population.

Organization of the Roman Catholic missions.

Archbishop of Goa.

Distribution of Roman Catholics.

The Verapoly vicariate (Travancore).

Catholic resources.

The Catholics in India seem steadily to increase; and as in

former times, the increase is chiefly in the south, especially in the missions of Pondicherri and Madura. The Pondicherri Mission has performed over 50,000 adult baptisms in the last three years. In the Madura vicariate, the increase is chiefly in Tinnevelli and Rámnád. The converts are mostly agriculturists, but are by no means confined to the low castes. The principal Catholic educational establishments in India are the colleges of the Jesuits at Calcutta, Bombay, and Negapatam. Another Jesuit college has lately been opened at Mangalore in South Kanara, a District in which there are over 3000 Catholic Bráhmans. England, being a Protestant country, supplies few priests, and hence Catholic missions have much difficulty in maintaining colleges and schools where English is the vehicle of higher education. The statistics of such institutions are incomplete, owing to want of information about certain parts of the Goa jurisdiction. But the number of schools actually returned in 1880, including Goa, was 1514, with 51,610 pupils.

Pondicherri Mission.

Catholic colleges.

The Roman Catholics work in India with slender pecuniary resources. They derive their main support from two great Catholic organizations, the Association for the Propagation of the Faith, and the Society of the Holy Childhood. The former contributes £24,464 yearly to Indian missions, and the latter £12,300, making a total of £36,764. This is exclusive of the expenditure within the Archbishopric of Goa; but it represents the European contributions to the sixteen vicariates under the Pope. It maintains a staff of 16 bishops and 1118 priests, teaching 1236 schools, with 40,907 pupils, and giving religious instruction to 1,002,379 native Christians. The Roman Catholic priests deny themselves the comforts considered necessaries for Europeans in India. In many Districts, they live the frugal and abstemious life of the natives, and their influence reaches deep into the social life of the communities among whom they dwell.

First Protestant missions, 1705.

The first Protestant missionaries in India were Lutherans, Ziegenbalg and Plutschau, who in 1705 began work under the patronage of the King of Denmark at the Danish settlement of Tranquebar. Ziegenbalg and many of the early Lutheran missionaries were men of great ability; and, besides their translations of the Scriptures, some of their writings still hold a high place in missionary literature. Ziegenbalg began the translation of the Bible into Tamil, and his successor Schultze completed it in 1725. This was the first Protestant transla-

Translation of the Bible, 1725.

tion of the Scriptures in India. Schultze also translated the whole Bible into Hindustání. Ziegenbalg died in 1719, leaving 355 converts. In spite of the patronage of the Kings of Denmark and England, and of the liberal assistance of friends in Europe, the Lutheran mission made at first but slow progress, and was much hindered and opposed by the local Danish authorities. Gradually it extended itself into Madras, Cuddalore, and Tanjore; schools were set up, and conversion and education went hand in hand.

In 1750, arrived the pious Schwartz, whose name is bound up with the history of Tanjore and adjacent Districts until his death in 1798. He was the founder of the famous Tinnevelli missions.[1] Next to the Lutherans come the Baptists of Serampur, with the honoured names of Carey, Marshman, and Ward. In the 18th century, the English East India Company did not discourage the labours of Protestant missionaries. It had allowed Kiernander, who was sent by the Danish mission, to establish himself at Calcutta in 1758; subsequently, it put every obstacle in the way of missionaries, and deported them back to England on their landing. Carey arrived in 1793. In 1799, to avoid the opposition of the English East India Company, he established himself with four other missionaries at Serampore (15 miles from Calcutta), at that time, like Tranquebar, a Danish possession. Then began that wonderful literary activity which has rendered illustrious the group of 'Serampore missionaries.' In ten years, the Bible, or parts of it, was translated, and printed in 31 languages; and by 1816, the missionaries had about 700 converts. The London Missionary Society (established 1795) entered the field in 1798, and its missions have gradually grown into importance.

Schwartz in Tanjore, 1750-98.

Serampur missionaries.

Kiernander in Calcutta, 1758.

Carey, 1793.

31 translations of the Bible.

The opposition of the Company continued till 1813, when it was removed by the new charter. The same document provided for the establishment of the bishopric of Calcutta, and 3 archdeaconries, one for each Presidency. Up to this period the Established Church of England had attempted no direct missionary work, although some of the East India Company's chaplains had been men of zeal, like the ardent Henry Martyn (1806-11). The first Bishop of Calcutta (Middleton) arrived in 1814. From this time the Church of England has kept up a missionary connection with India, chiefly by means of its two great societies—the Church Missionary Society, which sent out its first representative in 1814, and the Society for the Propagation of the Gospel, which did so in

Opposition withdrawn, 1813.

Bishopric of Calcutta, 1814.

[1] See article TINNEVELLI, *Imperial Gazetteer*, vol. ix.

1826. Their most successful missions are in Southern India, where they have gathered in the seed sown by the Lutheran missions. The second Bishop of Calcutta was the well-known Heber (1823-26). In 1835, under a new charter of the East India Company, the see of Madras was established, and in 1837, that of Bombay. In 1877, owing to the extension of mission work in Tinnevelli, two missionaries were appointed bishops, as assistants to the Bishop of Madras; the dioceses of Lahore and Rangoon were separated from Calcutta, and bishops appointed. The missionary bishopric of Travancore and Cochin was established in 1879. It has no connection with Government, nor have the assistant bishops in Madras.

Indian Sees.

Presbyterian missions, 1830-63.

Other missions.

The first missionary of the Church of Scotland was Dr. Alexander Duff (1830-63), to whom the use of English as the means of higher education in India is mainly due. Missionaries of numerous other Protestant societies (European and American) have since entered India, and established numbers of churches and schools. They have furnished memorable names to the roll of Indian educators, such as Judson (Baptist) in Burma, 1813-50, and John Wilson (Presbyterian) of Bombay, 1843-75.

Statistics of Protestant missions.

Progress, 1856 to 1878.

The progress of the several Protestant missions in India may be thus stated:—In 1830, there were 9 societies at work, and about 27,000 native Protestants in all India, Ceylon, and Burma. By 1870, there were no less than 35 societies at work; and in 1871, there were 318,363 converts (including Ceylon, etc., as above). In 1852, there were 459 Protestant missionaries, and in 1872, there were 606. Between 1856 and 1878, the converts made by the Baptist Societies of England and America, in India, Ceylon, and Burma, have increased from about 30,000 to between 80,000 and 90,000. Those of the Basle missions of Germany have multiplied from 1060 to upwards of 6000; those of the Wesleyan Methodist missions of England and America, from 7500 to 12,000; those of the American Board, from 3302 to about 12,000; those of the Presbyterian missions of Scotland, England, Ireland, and America, connected with 10 societies, from 821 to 10,000; those of the missions of the London Missionary Society, from 20,077 to 48,000; and those of the Church Missionary Society and of the Society for the Propagation of the Gospel, from 61,442 to upwards of 164,000.[1]

[1] The Rev. M. A. Sherring, in the *Chronicle of the London Missionary Society*, August 1879. I am indebted for the materials regarding Christian

The following are the statistics of four important Societies:—

Statistics of Four leading Indian Missions.

	Clergymen.		Other Agents.	Protestants, baptized or unbaptized.	Schools, etc.	Pupils.	Cost as shown in Accounts of Home Society.	
	Europeans and East Indians.	Natives.					£	
Church Missionary Society (1878-79), .	100	109	2,403	90,226	1,109	41,219	74,834	Exclusive of special funds; and of all money, etc. raised in India.
Society for Propagation of Gospel (1879),	43	63	882 (Excluding dioceses of Bombay and Lahore.)	72,848 (Excluding dioceses of Bombay and Lahore, where, however, the number of adherents is small.)	491	17,891	40,824	Including appropriated, but excluding special funds, and all money raised in India.
London Missionary Society (1879), .	46	28	252 (Native preachers only. No account of schoolmasters, etc.)	49,385	340	16,777	31,779	Including £7219 local contributions in India.
Wesleyan Methodist Society (1879), .	43	...	655	1,610	180	9,969	21,914	

Missions to Mr. W. Rees Philipps, of the Forest Department, Madras. Mr. Rees Philipps is now in India, and I have not been able to test or verify all his dates and statements.

Agriculture.

THE CULTIVATION OF THE SOIL forms the occupation of the Indian people, in a sense which it is difficult to realize in England. As the land tax forms the mainstay of the imperial revenue, so the *ráyat* or cultivator constitutes the unit of the social system. The village community contains many members besides the cultivators, but they all exist for his benefit, and all are maintained from the produce of the village fields. Even in considerable towns, the traders and handicraftsmen almost always possess plots of land of their own, on which they raise sufficient grain to supply their families with food. The operations of rural life are familiar to every class. They are enveloped in a cloud of religious sanctions, and serve to mark out by their recurring periods the annual round of industrial life. According to the returns of the general Census of 1872, the adult males directly engaged in agriculture amount to nearly 35 millions, or 56·2 per cent. of the total. To these must be added almost all the day-labourers, who number 7½ million males, or 12·3 per cent.; thus raising the total of persons directly supported by cultivation to 68·5 per cent.; being more than two-thirds of the whole adult males.

The work of almost the whole people.

The number of persons indirectly connected with agriculture is also very great. The Famine Commissioners estimate that 90 per cent. of the rural population live more or less by the tillage of the soil. India is, therefore, almost exclusively a country of peasant farmers. Even the so-called towns, as I have already mentioned,[1] are merely groups of villages, in the midst of which the ploughman drives his cattle a-field, and all the operations of agriculture go on. Indeed, the term municipality, which in Europe is only applied to towns, means quite as often in India a collection of rural homesteads for the purposes of local government.

The increase in the population has, however, developed a large landless class. The cultivated area no longer suffices to allow a plot of land for each peasant; and multitudes now find themselves ousted from the soil. They earn a poor livelihood as day-labourers; and according to the census of 1872, comprise one-eighth of the entire population. There is still enough land in India for the whole people, but the Indian peasant clings to his native District, however overcrowded. Migration or emigration has hitherto worked on too small a scale to afford a solution of the difficulty. The cultivating classes have meanwhile had to fall back on inferior soils

[1] *Ante*, p. 168.

in order to support their growing numbers. They get a smaller average yield for their labours from such lands. Of this smaller return they have to pay a larger proportion to the landlords, by the operation of the economic law of rent.

Various systems of agriculture.

Agriculture is carried on in the different Provinces with an infinite variety of detail. Everywhere the same perpetual assiduity is found, but the inherited experience of generations has taught the cultivators to adapt their simple methods to differing circumstances. The deltaic swamps of Bengal and Burma, the dry uplands of the Karnatic, the black-soil plains of the Deccan, the strong clays of the Punjab, the desert sand of Sind or Rájputána, require their separate modes of agriculture. In each case the Indian peasant has learned, without scientific instruction, to grow the crops best suited to the soil. His light plough, which he may be seen carrying a-field on his shoulders, makes but superficial scratches; but what the furrows lack in depth, they gain by repetition, and in the end pulverize every particle of mould.

Irrigation.

Where irrigation is necessary, native ingenuity has devised the means. The inundation channels in Sind, the wells in the Punjab and the Deccan, the tanks in the Karnatic, the terraces cut on every hillside, water at the present day a far larger area than is commanded by Government canals.

Manure.

Manure is copiously applied to the more valuable crops, whenever manure is available; its use being limited only by poverty and not by ignorance.

Rotation of crops.

The scientific rotation of crops is not adopted as a principle of cultivation. But in practice it is well known that a succession of exhausting crops cannot be taken in consecutive seasons from the same field, and the advantage of fallows is widely recognised. A mutation of crops takes the place of their rotation.

The *petite culture* of Indian husbandmen is in many respects well adapted to the soil, the climate, and the social conditions of the people. The periodicity of the seasons usually allows of two, and in some places of three, harvests in the year. For inexhaustible fertility, and for retentiveness of moisture in a dry season, no soil in the world can surpass the *regar* or 'black cotton-soil' of the Deccan. In the broad river basins, the inundations deposit annually a fresh top-dressing of silt, thus superseding the necessity of manures. The burning sun and the heavy rains of the tropics combine, as in a natural forcing-house, to extract the utmost from the soil. I shall speak hereafter of possible improvements in Indian agriculture[1]—improve-

[1] *Post*, pp. 511-513.

ments now necessary to support the increasing population. As the means of communication improve and blunt the edge of local scarcity, India is perhaps destined to compete with America as the granary of Great Britain.

Rice.

The name of rice has from time immemorial been closely associated with Indian agriculture. The rice-eating population is estimated at 67 millions, or over one-third of the whole.[1] If,

Statistics of rice cultivation,

however, we except the deltas of the great rivers, and the long strip of land fringing the coast, rice may be called a rare crop throughout the remainder of the peninsula. But where rice is grown, it is in an almost exclusive sense the staple crop. In British Burma, in a total cultivated area of 2,833,520 acres, in 1877-78, as many as 2,554,853 acres, or 90 per cent., were under rice. Independent Burma, on the other hand, grows no rice, but imports largely from British territory. For Bengal, unfortunately, no general statistics are available. But taking Rangpur as a typical District, it was there found that 1½ million acres, out of a classified total of a little more than 1¾ million acres, or 88 per cent., were devoted to rice. Similar proportions hold good for the Province of Orissa, the deltas of the Godávari, Kistna, and Káveri (Cauvery), and the lowlands of Travancore,

in different Provinces.

Malabar, Kánara, and the Konkan. In the North-Western Provinces and Oudh, rice is grown in damp localities, or with the help of irrigation, and forms a favourite food for the upper classes; but the local supply requires to be supplemented by importation from Bengal. Throughout the interior of the country, except in Assam, which is agriculturally a continuation of the Bengal delta, the cultivation of rice occupies but a subordinate place. In Madras generally, the area under rice amounts to about 33 per cent. of the whole food-grain area. In Bombay proper, the corresponding proportion is only 10 per cent., and in the outlying Province of Sind, 17 per cent. In the Central Provinces, the proportion rises as high as 34 per cent., but in the Punjab it falls to 5 per cent. In scarcely any of the Native States, which cover the centre of the peninsula, is rice grown to a large extent.

Methods of rice cultivation:

Rice is in fact a local crop, which can only be cultivated profitably under exceptional circumstances, although under those circumstances it returns a larger pecuniary yield than

in Madras;

any other food-grain in India. According to the Madras system of classification, rice is a 'wet crop,' *i.e.* it demands constant irrigation. In a few favoured tracts, the requisite irrigation is supplied by local rainfall, but more commonly by the periodi-

[1] Report of the Indian Famine Commission, part ii. p. 81 (1880).

cal overflow of the rivers, either directly or indirectly through artificial channels. It has been estimated that the rice crop requires 40 inches of water in order to reach its full development. But more important than the total amount of water is the period over which that amount is distributed. While the seedlings are in an early stage of growth, 2 inches of water are ample; but when the stem is strong, high floods are unable to drown it. In some Districts of Bengal, a long-stemmed variety of rice is grown, which will keep its head above 12 feet of water. Throughout Bengal, there are two main harvests of rice in the year — (1) the *áus* or early crop, sown on comparatively high lands, during the spring showers, and reaped between July and September; (2) the *áman* or winter crop, sown in low-lying lands, from June to August, usually transplanted, and reaped from November to January. The latter crop comprises the finer varieties, but the former is chiefly retained by the cultivators for their own food supply. Besides these two great rice harvests of the Bengal year, there are intermediate ones in various localities. The returns from Rangpur District specify no fewer than 295 varieties of rice.[1]

In Bengal.

The average out-turn per acre in Bengal has been estimated at 15 *maunds*, or 1200 lbs., of cleaned rice. In 1877-78, when famine was raging in Southern India, the exports of rice from Calcutta (much of it to Madras) amounted to nearly 17 million cwts. In British Burma, there is but a single harvest in the year, corresponding to the *áman* of Bengal. The grain is reddish in colour, and of a coarse quality; but the average out-turn is much higher than in Bengal, reaching in some places an average of 2000 and 2500 lbs. per acre. In 1877-78, the Burmese export of rice exceeded 13 million cwts. Besides being practically the sole crop grown in the deltaic swamps, rice is also cultivated on all the hills of India, from Coorg to the Himálayas. The hill tribes practise one of two methods of cultivation. They either cut the mountain slopes into terraces, to which sufficient water is conveyed by an ingenious system of petty canals; or they trust to the abundant rainfall, and scatter their seeds on clearings formed by burning patches of the jungle. In both cases, rice is the staple crop, where the moisture permits. It figures largely in the nomadic system of hill cultivation, described at page 521. The table on the next page shows the comparative area under rice and the two great other classes of food-grains. The figures must be taken as approximate estimates only.

Out-turn of rice.

Hill cultivation.

[1] See my *Statistical Account of Bengal*, vol. vii. pp. 234-237 (1876).

Area under the three principal classes of

INDIAN FOOD-GRAINS.

Province.	Percentage of Food-Grain Area under			Total Population	Population eating Rice.
	Wheat or Barley.	Millets.	Rice.		
				Millions.	Millions.
Punjab,	54	41	5	20	1
North-Western Provinces,	57	34	9	42	4
Bengal and Assam,	Not known		—	66	46
Central Provinces,	27	39	34	8	3
Berar,	17	82	1	2	—
Bombay,	7	83	10	17	2
Madras,	—	67	33	31	10
Mysore,	—	84	16	5	1
Total,	—	—	—	191	67

Wheat. Recent exports of wheat to Europe have drawn attention to the important place which this crop occupies in Indian agriculture. It is grown to some extent in almost every District; but, broadly speaking, it may be said that wheat does not thrive where rice does; nor, indeed, anywhere south of the Deccan. The great wheat-growing tract of India is the North-Western Provinces, where 57 per cent. of the food-grain area is under this crop. In the Punjab, the proportion is almost as high, or 54 per cent. Wheat is also largely grown in Behar, and in the Districts of Bengal that lie west of the Ganges. In the Central Provinces, in 1879, wheat was raised on 27 per cent. of the food-grain area, being the chief crop in the Districts of Hoshangábád, Narsinhpur, and Ságar. In Bombay, the corresponding proportion was only 7 per cent., and in Sind, 12 per cent. The significance of these figures may be learned from the fact, that in Great Britain the area under wheat is only 3 million acres, or less than one-half the amount in a single Indian Province, the Punjab. It has been estimated that the total area under wheat in India is equal to the area under the same crop in the United States.

Statistics of wheat cultivation.

Out-turn of wheat. Nor is the out-turn contemptible, averaging about 13 bushels per acre in the Punjab, as compared with an average of 15½ bushels for the whole of France. The quality, also, of the grain is high enough to satisfy the demands of English millers; and 'Calcutta Club No. 1' commands a price in Mark Lane not much below that of the finest Australian or Californian produce. Unfortunately, when a prosperous trade with Europe seemed on the point of establishing itself, the famine of 1877-78 supervened; and India will now have to fight against the

position of vantage occupied by the United States. According to the system of classification in Upper India, wheat ranks as a *rabí* or spring crop, being reaped at the close of the cold weather in April and May. Wherever possible, it is irrigated; and the extension of canals through the Gangetic Doáb has largely contributed to the substitution of wheat for inferior cereals. The abolition, in 1873, of the old Indian export duty on wheat, laid the foundation of the Indo-European wheat-trade, which, since this wise measure, has attained such large dimensions.

Millets.

Taking India as a whole, it may be broadly affirmed that the staple food-grain is neither rice nor wheat, but millet. Excluding special rice tracts, varieties of millet are grown more extensively than any other crop, from Madras in the south, at least as far as Rájputána in the north.[1] The two most common kinds are great millet (Holcus sorghum *vel* Sorghum vulgare), known as *joár* or *jawárí* in the languages derived from the Sanskrit, as *jonna* in Telugu, and as *cholam* in Tamil; and spiked millet (Holcus spicatus *vel* Penicillaria spicata), called *bájra* in the north and *kambu* in the south. In Mysore and the neighbouring Districts, *rágí* (Eleusine coracana), called *náchani* in Bombay, takes the first place. According to the Madras system of classification, these millets all rank as 'dry crops,' being watered only by the local rainfall, and sown under either monsoon; farther north, they are classed with the *kharíf* or autumn harvest, as opposed to wheat.

Chief varieties.

Statistics of millet cultivation.

The following statistics show the importance of millet cultivation throughout Southern and Central India. In Madras, in 1875-76, *cholam* covered 4,610,000 acres; *rágí*, 1,636,000 acres; *varagu* or *auricalu* (Paspalum frumentaceum), 1,054,000 acres; *kambu*, 2,909,000 acres; *samai* or millet proper (Panicum miliaceum), 1,185,000, — making a total of 11,384,000 acres under 'dry crops,' being 52 per cent. of the cultivated area. The proportion was 67 per cent. of the food-grain area in 1879. In the upland region of Mysore, the proportion under 'dry crops,' chiefly *rágí*, rises to 77 per cent. of the cultivated area, or 84 per cent. of the food-grain area. The total under all millets, *joár*, and *bájra* in Bombay and Sind is 83 per cent. of the food-grain area; in the Central Provinces, 39 per cent.; in the Punjab, 41 per cent.; and in the North-Western Provinces, 34 per cent. of the food-grain area. Indian corn is cultivated to a limited extent in all parts of the country; barley, in the upper valley of the Ganges, throughout the Punjab, and in the Himálayan valleys; oats, only as an experimental

[1] See foregoing table, p. 488.

crop by Europeans. *Joár* and *rágí*, but not *bájra*, are invaluable as fodder for cattle.

Pulses. Pulses of many sorts form important staples. In Madras, the area under pulses in 1875 was 2,077,000 acres, or 9 per cent.; in Bombay, about 830,000 acres, or 7 per cent.; in the Punjab, 4,000,000 acres, or 21 per cent. The principal varieties grown, with many native names, but generically known to Europeans as gram and *dál*, are—Cicer arietinum, Phaseolus mungo, and P. radiatus, Dolichos biflorus, D. uniflorus, and D. lablab, Cajanus indicus, Ervum lens, Lathyrus sativus, and Pisum sativum.

Oil-seeds. Oil-seeds also form an important crop in all parts of the country; oil being universally required, according to native customs, for application to the person, for food, and for lamps. In recent years, the cultivation of oil-seeds has received an extraordinary stimulus owing to their demand in Europe, especially in France. But as they can be grown after rice, etc. as a second crop, this increase has hardly at all tended to diminish the production of food-grains. The four chief varieties grown are mustard or rape-seed, linseed, *til* or gingelly (sesamum), and castor-oil. Bengal and the North-Western Provinces are at present the chief sources of supply for the foreign demand, but gingelly is largely exported from Madras and, to a less extent, from Burma. Area in 1875 under oil-seeds — in Madras, about 1,200,000 acres, or nearly 6 per cent. of the cultivated area; in Bombay, 628,000, or about 5 per cent.; in the Central Provinces, 1,358,571 acres, or nearly 9 per cent.; in the Punjab, 780,000 acres, or 4 per cent. In the year 1877-78, the total export of oil-seeds from India amounted to 12,187,020 cwts., valued at £7,360,284; in 1878-79, to 7,211,790 cwts., valued at £4,682,512.

Vegetables. Vegetables are everywhere cultivated in garden plots for household use, and also on a larger scale in the neighbourhood of great towns. Among favourite native vegetables, the following may be mentioned:—The egg-plant, called *brinjál* or *baigan* (Solanum melongena), potatoes, cabbages, cauliflower, radishes, onions, garlic, turnips, yams, and a great variety of cucurbitaceous plants, including Cucumis sativus, Cucurbita maxima, Lagenaria vulgaris, Trichosanthes dioica, and Benicasa cerifera. Of these, potatoes, cabbages, and turnips are of recent introduction. Almost all English vegetables can be raised by a careful gardener. Potatoes thrive best on the higher elevations, such as the Khásí Hills, the Nílgiris, the Mysore uplands, and the slopes of the Himálayas; but they are also grown on the

plains and even in deltaic Districts. They were first introduced into the Khásí Hills in 1830. They now constitute the principal crop in these and other highland tracts. The annual export from the Khásí Hills to the Calcutta market is more than 7000 tons, valued at £50,000 a year.

Among the cultivated fruits are the following:—Mango (Mangifera indica), plantain (Musa paradisiaca), pine-apple (Ananas sativa), pomegranate (Punica granatum), guava (Psydium pomiferum *et* P. pyriferum), tamarind (Tamarindus indica), jack (Artocarpus integrifolia), custard-apple (Anona squamosa), *papaw* (Carica papaya), shaddock (Citrus decumana), and several varieties of fig, melon, orange, lime, and citron. The mangoes of Bombay, of Múltán, and of Maldah in Bengal, and the oranges of the Khásí Hills enjoy a high reputation; while the guavas of Madras are made into an excellent preserve. Fruits.

Among spices, for the preparation of curry and other hot dishes, turmeric and chillies hold the first place, and are very widely cultivated. Next in importance come ginger, coriander, aniseed, black cummin, and fenugreek. Pepper proper is confined to the Malabar coast, from Kánara to Travancore. Cardamoms are a valuable crop in the same locality, and also in the Nepálese Himálayas. *Pán* or betel-leaf is grown by a special caste in most parts of the country. Its cultivation requires constant care, but is highly remunerative. Betel-nut or areca is chiefly grown in certain favoured localities, such as the deltaic Districts of Bengal, the Konkan of Bombay, and the highlands of Southern India. Spices.

Besides betel-nut (Areca catechu), the palms of India include the cocoa-nut (Cocos nucifera), the bastard date (Phœnix sylvestris), the palmyra (Borassus flabelliformis), and the true date (Phœnix dactylifera). The cocoa-nut, which loves a sandy soil and a moist climate, is found in greatest perfection along the strip of coast-line which fringes the south-west of the peninsula, where it ranks next to rice as the staple product. The bastard date, grown chiefly in the country round Calcutta and in the north-east of the Madras Presidency, supplies both the jaggery sugar of commerce, and intoxicating liquors for local consumption. Spirit is also distilled from the palmyra, especially in the neighbourhood of Bombay and in the south-east of Madras. The true date is almost confined to Sind. Palms.

Sugar is manufactured both from the sugar-cane and from the bastard date-palm, but the total production is inadequate to the local demand. The best cane is grown in the North- Sugar.

Western Provinces, on irrigated land. It is an expensive crop, requiring much attention, and not yielding a return within the year; but the profits are proportionately large. In Bengal, the manufacture from the cane has declined during the present century; but in Jessor District, the making of date-sugar is a thriving and popular industry.[1] The preparation of sugar is everywhere in the hands of natives, except in the case of the Aska Factory in the Madras District of Ganjám, and the Ashtagrám Factory in Mysore. Both these factories use sugar-cane instead of the date juice, and have received honourable notice at exhibitions in Europe.

Cotton.

Cotton holds the first place among agricultural products grown for export. From the earliest times, cotton has been grown in sufficient quantities to meet the local demand, and even in the last century there was some slight export from the country, which was carefully fostered by the East India Company. But the present importance of the crop dates from the crisis in Lancashire caused by the American War. Prior to 1860, the exports of raw cotton from India used to average less than 3 millions sterling a year; but after that year they rose by leaps, until in 1866 they reached the enormous total of 37 millions. Then came the crash, caused by the restoration of peace in the United States; and the exports steadily fell to just under 8 millions in 1879. The fact is that Indian cotton has a short staple, and cannot compare with the best American cotton for spinning the finer qualities of yarn. But while the cotton famine was at its height, the cultivators were intelligent enough to make the most of their opportunity. The area under cotton increased enormously, and the growers managed to retain in their own hands a fair share of the profit.

The American war, 1862.

Cotton Districts.

The principal cotton-growing tracts are—the plains of Guzerat and Káthiáwár, whence Indian cotton has received in the Liverpool market the historic name of *Surat;* the highlands of the Deccan; and the deep valleys of the Central Provinces and Berar. The best native varieties are found in the Central Provinces and Berar, passing under the trade names of Hinganghát and Amráoti. These varieties have been successfully introduced into the Bombay District of Khándesh. Experiments with seed from New Orleans have been conducted for several years past on the Government farms in many parts of India; but it cannot be said that they have resulted in success except in the Bombay District of Dhárwár, where exotic cotton

[1] A full account of the manufacture will be found in my *Statistical Account of Bengal*, vol. ii. pp. 280-298.

has now generally supplanted the indigenous staple. In 1875-76, the total area under cotton in the Bombay Presidency, including Sind and the Native States, amounted to 4,516,587 acres, with a yield of 2,142,835 cwts. Of this total, 583,854 acres, or 13 per cent., were sown with exotic cotton, including that from the Central Provinces and also that from New Orleans, with a yield of 248,767 cwts. The average yield was thus about 53 lbs. per acre, the highest being in Sind and Guzerat, and the lowest in the Southern Marhattá country. In 1875-76, the total exports were 3,887,808 cwts., from the Bombay Presidency, including the produce of the Central Provinces and the Berars, valued at £10,673,761. Cotton area in Bombay.

In 1877-78, the area under cotton in the Central Provinces was 837,083 acres, or under 6 per cent. of the total cultivated area, chiefly in the Districts of Nágpur, Wárdhá, and Ráipur. The average yield was about 59 lbs. per acre. The exports from the Central Provinces to Bombay, including re-exports from Berar, were about 300,000 cwts., valued at £672,000. In the same year, the area under cotton in Berar was 2,078,273 acres, or 32 per cent. of the total cultivated area, chiefly in the two Districts of Akola and Amráoti. The average yield was as high as 67 lbs. of cleaned cotton per acre. The total export was valued at £2,354,946, almost entirely railway-borne. In Madras, the average area under cotton is about 1,500,000 acres, chiefly in the upland Districts of Bellary and Karnúl, and the low plains of Kistna and Tinnevelli. The total exports in 1876-77 were 460,000 cwts., valued at about 1 million sterling. In Bengal, the cultivation of cotton is on the decline. The local demand is satisfied by imports from the North-Western Provinces and from the bordering hill tracts, where a very short-stapled variety of cotton is extensively cultivated. The total area under cotton in Bengal is estimated at only 162,000 acres, yielding 138,000 cwts. of cleaned cotton. Of this, 31,000 acres were in Sáran, 28,000 in the Chittagong Hill Tracts, and 20,000 in Cuttack. Throughout the North-Western Provinces, and also the Punjab, sufficient cotton is grown to meet the wants of the village weavers. Cotton cultivation, in Central Provinces; in Berar; in Madras; in Bengal;

The total export of raw cotton from Indian ports in 1878-79, was 2,966,569 cwts., valued at £7,914,091, besides cotton twist and yarn to the value of £937,698, and cotton manufactures valued at £1,644,125. Cotton exports.

The cotton-mills of Bombay will be treated of under the heading 'manufactures.' But apart from weaving and spinning, the cotton trade has given birth to other busy industries, Cotton cleaning.

devoted to cleaning the fibre and pressing it into bales for carriage. In 1876-77, there were altogether 2506 steam-gins for cleaning cotton in the Bombay Presidency, besides 22 in the Native States. In addition, there were 130 full-presses worked by steam power, and 183 half-presses worked by manual labour. Cotton gins and cotton presses are also numerous at the chief marts in the Central Provinces and Berar.

Jute.

Jute ranks next to cotton as a fibre crop. The extension of its cultivation has been equally rapid, but it is more limited in its area, being practically confined to Northern and Eastern Bengal. In this tract, which extends from Purniah to Goalpara, for the most part north of the Ganges and along both banks of the Brahmaputra, jute is grown on almost every variety of soil. The chief characteristic of the cultivation is that it remains entirely under the control of the cultivator. Practically a peasant proprietor, he increases or diminishes his cultivation according to the state of the market, and keeps the profits in his own hands. The demand for jute in Europe has contributed more than any administrative measure to raise the standard of comfort throughout Eastern Bengal.

The jute area of Bengal.

The jute plant.

The plant that yields the jute of commerce, is called *pát* or *koshta* by the natives, and belongs to the family of mallows (Corchorus olitorius and C. capsularis). It sometimes attains the height of 12 feet. The seed is generally sown in April, the favourite soil being *chars*, or alluvial sandbanks thrown up by the great rivers; and the plant is ready for cutting in August. When it first rises above the ground, too much water will drown it; but later on, it is able to survive heavy floods. After being cut, the stalks are tied up in bundles, and thrown into standing water to steep. When rotted to such a degree that the outer coat peels off easily, the bundles are taken out of the water, and the fibre is extracted and carefully washed. It now appears as a long, soft, and silky thread; and all that remains to do is to make it up into bales for export. The final process of pressing is usually performed in steam-presses at Calcutta. The trade is to a great extent in the hands of natives. *Bepárís* or travelling hucksters go round in boats to all the little river marts, to which the jute has been brought by the cultivators. By their agency the produce is conveyed to a few great centres of trade, such as Sirájganj and Náráinganj, where it is transferred to wholesale merchants, who ship it to Calcutta by steamer or large native boats, according to the urgency of demand.

Preparation of fibre.

Mechanism of jute trade.

In 1872-73, when speculation was briskest, it is estimated

that about 1 million acres were under jute, distributed over 16 Districts, which had a total cultivable area of 23 million acres. The total export from Calcutta in that year was about 7 million cwts., valued at £4,142,548. Both quantities and prices have since somewhat declined, but the business remains on a stable footing. In 1878-79, the total export of raw jute from India was 6,021,382 cwts., valued at £3,800,426, besides jute manufactures to the value of £1,098,434. Jute is undoubtedly an exhausting crop; but this fact is well known to the cultivators, who generally allow jute-fields to lie fallow every third or fourth year. A fear has sometimes been expressed that the profits derived from jute may have induced the cultivators to neglect their grain crops. But the apprehension seems to be quite groundless. For the most part, jute is grown on flooded lands which would otherwise lie untilled. It only covers a very small portion of the total area, even of the jute Districts, say 4 per cent.; and the fertility of the rice-fields of Eastern Bengal is such that they could support a much denser population than at present. Jute, in short, is no rival of rice; but a subsidiary crop, from which the cultivator makes money, while he reserves the rice for his own consumption.

Jute out-turn. Exports. Aspects to the husbandman.

Indigo is one of the oldest, and, until the introduction of tea-planting, it ranked as the most important, of the Indian staples grown by European capital. In Bengal proper, its cultivation has greatly declined since the early years of this century. English planters have entirely abandoned the Districts of Húglí, the Twenty-four Parganás, Dacca, Farídpur, Rangpur, and Pabná, which are dotted with the sites of ruined factories. In Nadiyá, Jessor, Murshidábád, and Maldah, the industry is still carried on; but it has not recovered from the depression and actual damage caused by the indigo riots of 1860, and the emancipation of the peasantry by the Land Act of 1859. Indigo of a superior quality is manufactured in Midnapur, along the frontier of the hill tracts. The cultivation on the old scale still flourishes in North Behar, from which is derived one-half of the total exports from Calcutta. No accurate statistics of area are available; but in Tirhut alone there are 56 principal concerns, with 70 outworks, producing annually about 20,000 *maunds* of dye; in Sáran, 30 principal concerns and 25 outworks, producing about 12,000 *maunds*; in Champáran, 7 large concerns, producing also 12,000 *maunds*.[1] It has been estimated that the total

Indigo. Its decline in Lower Bengal. Its cultivation in Behar;

[1] The factory *maund* of indigo weighs 74 lbs. 10 oz.

amount of money annually distributed by the planters of North Behar cannot be less than 1 million sterling. Across the border, in the North-Western Provinces, indigo is grown and manufactured to a considerable extent by native cultivators. In the Punjab, also, indigo is an important native crop, especially in the Districts of Múltán, Muzaffargarh, and Derá Ghází Khán. In Madras, the total area under indigo is about 300,000 acres, grown and manufactured entirely by the natives, chiefly in the north-east of the Presidency, extending along the coast from Kistna to south Arcot, and inland to Karnúl and Cuddapah. In 1877-78, the total export of indigo from all India was 120,605 cwts., valued at £3,494,334; in 1878-79, the exports amounted to 105,051 cwts., of the value of £2,960,463.

in N.W. Provinces; in Madras.

Indigo exports.

In Bengal, indigo is usually grown on low-lying lands, with sandy soil, that are liable to annual inundation; in Behar, on comparatively high land. The general practice is for the planter to obtain from the *zamíndár* or landlord a lease of the whole village area for a term of years; and then to require the *ráyats* or cultivators to grow indigo on a certain portion of their farms every year, under a system of advances. The seed, of which the best kind is imported from Cawnpore, is generally sown about March; and the crop is ready for gathering by the beginning of July. A second crop is sometimes obtained in September. When cut, the leaves are taken to the factory, to be steeped in large vats for about ten hours until the process of fermentation is completed. The water is then run off into a second vat, and subjected to a brisk beating, the effect of which is to separate the particles of dye and cause them to settle at the bottom. Finally, the sediment is boiled, strained, and made up into cakes for the Calcutta market. In recent years, steam has been introduced into the factories for two purposes: to maintain an equable temperature in the vats while the preliminary process of fermentation is going on, and to supersede by machinery the manual labour of beating.

System of indigo-planting.

Opium,

The opium of commerce is grown and manufactured in two special tracts: (1) the valley of the Ganges round Patná and Benares; and (2) a fertile tableland in Central India, corresponding to the old kingdom of Málwá, for the most part still under the rule of native chiefs, among whom Sindhia and Holkar rank first. In Málwá, the cultivation of poppy is free, and the duty is levied as the opium passes through the British Presidency of Bombay; in Bengal, the cultivation is a Government monopoly. Opium is also grown for local consumption throughout Rájputána, and to a very limited extent

in Bengal and Málwá;

in Ráj-putána.

in the Punjab and the Central Provinces. Throughout the rest of India it is absolutely prohibited. In the Ganges valley, the cultivation is supervised from two agencies, with their headquarters at Patná and Gházípur, at which two towns alone the manufacture is conducted. In 1872, the Bengal area under poppy was 560,000 acres; the number of chests of opium sold was 42,675; the sum realized was £6,067,701, giving a net revenue of £4,259,376. The whole of this was exported from Calcutta to China and the Straits Settlements. The amount of opium exported from Bombay is about equal, thus raising the average exports of opium to about 12 millions sterling, of which about 9 millions represents net profit to Government. In 1878-79, 91,200 chests of opium were exported from all India, of the value of £12,993,985, of which £7,700,000 represented the net profit to Government.

Bengal out-turn.

Total Indian out-turn.

Under the Bengal system, annual engagements are entered into by the cultivators to sow a certain quantity of land with poppy; and it is a fundamental principle, that they may engage or refuse to engage, as they please. As with most other Indian industries, a pecuniary advance is made to the cultivator before he commences operations, to be deducted when he delivers over the opium at the subordinate agencies. He is compelled to make over his whole produce, being paid at a fixed rate, according to quality. The best soil for poppy is high land which can be easily manured and irrigated. The cultivation requires much attention throughout. From the commencement of the rains in June until October, the ground is prepared by repeated ploughing, weeding, and manuring. The seed is sown in the first fortnight of November, and several waterings are necessary before the plant reaches maturity in February. After the plant has flowered, the first process is to remove the petals, which are preserved, to be used afterwards as coverings for the opium-cakes. The juice is then collected during the month of March, by scarifying the capsules in the afternoon with an iron instrument, and scraping it off the next morning. The quality of the drug mainly depends upon the skill with which this operation is performed. In the beginning of April, the cultivators bring in their opium to the subordinate agencies, where it is examined and weighed, and the accounts are settled. The final process of preparing the drug in balls for the Chinese market is conducted at the two central agencies at Patná and Gházípur. This generally lasts until the end of July, but the balls are not dry enough to be packed in chests until October.

Bengal opium system: advances; cultivation; manufacture.

Tobacco.

Tobacco is grown in every District of India for local consumption. The soil and climate are favourable; but the quality of native cured tobacco is so inferior, as to scarcely find a market in Europe. The principal tobacco-growing tracts are Rangpur and Tirhut in Bengal, Kaira in Bombay, the delta of the Godávari, and Coimbatore and Madura Districts in Madras. The two last-mentioned Districts supply the raw material for the well-known 'Trichinopoli cheroot,' almost the only form of Indian tobacco that finds favour with Europeans; the produce of the *lánkás* or alluvial islands in the Godávari is manufactured into 'coconadas.' The tobacco of Northern Bengal is largely exported to British Burma; for the Burmese, although great smokers, do not grow sufficient for their own needs. The manufacture of tobacco, both in Madras and Burma, is now making progress under European supervision, and promises to supply an important new staple in the exports of India.

Chief tobacco areas.

Tobacco trade.

In 1876-77, the total registered imports of tobacco into Calcutta were 521,700 *maunds*, valued at £261,000, of which more than half came from the single District of Rangpur. Tobacco is also grown for export in the Chittagong Hill Tracts. The tobacco of Tirhut is chiefly exported towards the west. The total area under tobacco in that District is estimated at 40,000 acres, the best quality being grown in *parganá* Saressa of the Tájpúr Subdivision.

Tobacco-curing.

Since 1875, a private firm of capitalists, backed by Government support, has begun to grow tobacco, and manufacture it for the European market. The scene of operations is two abandoned stud-farms at Gházípur in the North-Western Provinces, and at Pusa in Tirhut District, Bengal. In 1878-79, about 240 acres were cultivated with tobacco, the total crop being about 160,000 lbs. Five English or American curers were employed. Some of the produce was exported to England as 'cured leaf;' but the larger part was put upon the Indian market in the form of 'manufactured smoking mixture.' This mixture is in demand at regimental messes and canteens, and has also found its way to Australia. The enterprise may now be said to have passed beyond the stage of experiment, and has probably opened a new sphere alike for Indian agriculture and European capital. The one essential condition of success is skilled supervision in the delicate process of tobacco-curing. Tobacco to the value of £128,330 was exported from India in 1878-79.

Before proceeding to crops of a special character, such as

coffee, tea, and cinchona, it may be well to give a general view of the area covered by the staples of Indian agriculture. The table on next page must be taken as approximate only; it represents, however, the best information available (1880). Its figures show various changes from the estimates in 1875, incorporated in some of the foregoing paragraphs. But it is necessary to warn the reader that Indian agricultural returns do not always stand the test of statistical analysis. I can only reproduce the local figures without verifying them; alike in the preceding pages, and in this tabular statement (p. 500). But steps are now being taken to secure a higher degree of trustworthiness in such returns. Uncertainty of Indian crop statistics.

The cultivation of coffee is confined to Southern India, although attempts have been made to introduce the plant both into British Burma and into the Bengal District of Chittagong. The coffee tract may be roughly defined as a section of the landward slope of the Western Gháts, extending from Kánara in the north to Travancore in the extreme south. This tract includes almost the whole of Coorg, the Districts of Kádur and Hassan in Mysore, and the Nílgiri Hills, enlarged by the recent annexation of the Wainád. Within the last few years, the cultivation has extended to the Shevaroy Hills in Salem District, and to the Palni Hills in Madura. Unlike tea, coffee was not introduced into India by European enterprise; and even to the present day its cultivation is largely conducted by natives. The Malabar coast has always enjoyed a direct commerce with Arabia, and yielded many converts to Islám. About 1560, one of these converts, Bába Budan, is said to have gone on a pilgrimage to Mecca, and to have brought back with him the coffee berry, which he planted on the hill range in Mysore still called after his name. According to local tradition, this happened about two centuries ago. The shrubs thus sown lived on, but the cultivation did not spread until the beginning of the present century. The State of Mysore and the Bába Budan range also witnessed the first opening of a coffee-garden by an English planter about forty years ago. The success of this experiment led to the extension of coffee cultivation into the neighbouring tract of Manjarábád, also in Mysore, and into the Wainád Subdivision of the Madras District of Malabar. From 1840 to 1860, the enterprise made slow progress; but since the latter date, it has spread with great rapidity along the whole line of the Western Gháts, clearing away the primeval forest, and opening a new era of prosperity to the labouring classes. The following statistics

Coffee.

Coffee area.

Introduction into India, 1560 (?).

Its progress, 1840-60.

[*Sentence continued on p.* 501.

APPROXIMATE AREA IN ACRES OCCUPIED BY THE PRINCIPAL CROPS IN SOME INDIAN PROVINCES IN 1877-78.

<table>
<tr><th></th><th>Madras.</th><th>Bombay (exclud. Sind).</th><th>Sind.</th><th>Punjab.</th><th>Central Provinces.</th><th>British Burma.</th><th>Mysore.</th><th>Berar.</th></tr>
<tr><td>Rice, ...</td><td>4,600,000</td><td>1,195,000</td><td>512,000</td><td>400,000</td><td>4,550,000</td><td>2,555,000</td><td>540,000</td><td>31,000</td></tr>
<tr><td>Wheat, ...</td><td>16,000</td><td>561,000</td><td>354,000</td><td>7,000,000</td><td>3,600,000</td><td>...</td><td>11,000</td><td>525,000</td></tr>
<tr><td>Millets and inferior grains, .</td><td>10,600,000</td><td>5,800,000</td><td>934,000</td><td>6,000,000</td><td rowspan="2">5,140,000</td><td rowspan="2">...</td><td rowspan="2">3,400,000</td><td>2,760,000</td></tr>
<tr><td>Pulses, ...</td><td>1,600,000</td><td>830,000</td><td>115,000</td><td>3,200,000</td><td>180,000</td></tr>
<tr><td>Oil-seeds, ...</td><td>800,000</td><td>628,000</td><td>180,000</td><td>800,000</td><td>1,360,000</td><td>15,000</td><td>130,000</td><td>460,000</td></tr>
<tr><td>Cotton, ...</td><td>1,000,000</td><td>1,350,000</td><td>70,000</td><td>660,000</td><td>840,000</td><td>10,000</td><td>15,000</td><td>2,080,000</td></tr>
<tr><td>Tobacco, ...</td><td>60,000</td><td>35,000</td><td>6,000</td><td>80,000</td><td>48,000</td><td>17,000</td><td>19,000</td><td>17,000</td></tr>
<tr><td>Indigo, ...</td><td>120,000</td><td>14,000</td><td>10,000</td><td>110,000</td><td>...</td><td>700</td><td>...</td><td>...</td></tr>
<tr><td>Sugar-cane, . . .</td><td>21,000</td><td>50,000</td><td>4,000</td><td>38,000</td><td>100,000</td><td>4,000</td><td>13,000</td><td>5,000</td></tr>
</table>

Sentence continued from p. 499.]
show the area under coffee for the year 1877-78:—In Mysore, 128,438 acres, almost confined to the two Districts of Hassan and Kádúr; in Madras, 58,988 acres, chiefly in Malabar, the Nílgiris, and Salem; in Coorg, 45,150 acres: total, 232,576 acres, exclusive of Travancore. The average out-turn is estimated at about 3 cwts. per acre of mature plant. The total Indian exports (from Madras) in 1877-78 were 33,399,352 lbs., valued at £1,355,643, of which about one-half was consigned to the United Kingdom. In 1878-79, the exports amounted to 38,336,000 lbs., valued at £1,548,481. Coffee Statistics, 1878.

Considerable judgment is required to select a suitable site for a coffee-garden, for the shrub will only thrive under special circumstances, which it is not very easy to anticipate beforehand. It is essential that the spot should be sheltered from the full force of the monsoon, and that the rainfall, though ample, should not be excessive. The most desirable elevation is between 2500 and 3500 feet above sea level. The climate must be warm and damp, conditions which are not conducive to the health of Europeans. Almost any kind of forest land will do, but the deeper the upper stratum of decomposed vegetable matter the better. The site chosen for a garden is first cleared with the axe, of jungle and undergrowth, but sufficient timber-trees should be left to furnish shade. In the month of December, the berries are sown in a nursery, which has previously been dug, manured, weeded, and watered as carefully as a garden. Between June and August, the seedlings are planted out in pits dug in prepared ground at regular intervals; an operation which demands the utmost carefulness in order that the roots may not be injured. In the first year, weeding only is required; in the second year, the shrubs are 'topped,' to keep them at an average height of about 3 feet; in the third year, they commence to bear, but it is not until the seventh or eighth year that the planter is rewarded by a full crop. The season for blossoming is March and April, when the entire shrub burgeons in a snowy expanse of flower, with a most delicate fragrance. Gentle showers or heavy mists at this season contribute greatly to the fecundity of the blossoms. The crop ripens in October and November. The berries are picked by hand, and collected in baskets to be 'pulped' on the spot. This operation is performed by means of a revolving iron cylinder, fixed against a breastwork at such an interval that only the 'beans' proper pass through, while the husks are rejected. The beans are then left to ferment for about twenty-

Sites for coffee-gardens; elevation; clearing; cultivation; picking; pulping;

four hours, when their saccharine covering is washed off. After drying in the sun for six or eight days, they are ready to be put in bags and despatched from the garden. But before being shipped, they have yet to be prepared for the home market. This is done at large coffee-works, to be found at the western ports and in the interior of Mysore. The berries are here 'peeled' in an iron trough by broad iron wheels, worked by steam power; and afterwards 'winnowed,' graded, and sorted for the market.

peeling.

Tea.

The cultivation of tea in India commenced within the memory of men still living, and the industry now surpasses even indigo as a field for European capital. Unlike coffee-planting, the enterprise owes its origin to the initiation of Government, and it has never attracted the attention of the natives. Early travellers reported that the tea-plant was indigenous to the southern valleys of the Himálayas; but they were mistaken in the identity of the shrub, which was the Osyris nepalensis. The real tea (Thea viridis), a plant akin to the camellia, grows wild in Assam, being commonly found throughout the hill tracts between the valleys of the Brahmaputra and the Bárak. It there sometimes attains the dimensions of a large tree; and from this, as well as from other indications, it has been plausibly inferred that Assam is the real home of the plant, which was thence introduced at a prehistoric date into China. The discovery of the tea-plant growing wild in Assam is generally attributed to two brothers named Bruce, who brought back specimens of the plant and the seed, after the conquest of the Province from the Burmese in 1826. In January 1834, under the Governor-Generalship of Lord William Bentinck, a committee was appointed 'for the purpose of submitting a plan for the introduction of tea-culture into India.' In the following year, plants and seed were brought from China, and widely distributed throughout the country. Government itself undertook the formation of experimental plantations in Upper Assam, and in the sub-Himálayan Districts of Kumáun and Garhwál in the North-Western Provinces. A party of skilled manufacturers was brought from China, and the leaf which they prepared was favourably reported upon in the London market. Forthwith private speculation took up the enterprise. The Assam Tea Company, still by far the largest, was formed in 1839, and received from the Government an extensive grant of land, with the nurseries which had been already laid out. In Kumáun, retired members of the civil and military services came forward with equal eagerness. Many fundamental mis-

Home of the tea-plant, Assam.

Discovered 1826.

State experiments, 1834-49.

Private Companies, 1839-51.

takes as to site, soil, and methods of manufacture were made in those early days, and bitter disappointment was the chief result. But while private enterprises languished, Government steadily persevered. It retained a portion of its Assam gardens in its own hands until 1849, when the Assam Company began to emerge from their difficulties. Government also carried on the business in Kumáun, under the able management of Dr. Jameson, as late as 1855.

Rapid progress, 1851-65.

The real progress of tea-planting on a great scale in Assam dates from about 1851, and was greatly assisted by the promulgation of the Waste-Land Rules of 1854. By 1859, there were already 51 gardens in existence, owned by private individuals; and the enterprise had extended from its original headquarters in Lakhimpur and Síbságar as far down the Brahmaputra as Kámrúp. In 1856, the tea-plant was discovered wild in the District of Cáchár in the Bárak valley, and European capital was at once directed to that quarter. At about the same time, tea-planting was introduced into the neighbourhood of the Himálayan sanatorium of Dárjíling, among the Sikhim Himálayas.

Cáchár.

Dárjíling.

Crisis of 1865.

The success of these undertakings engendered a wild spirit of speculation in tea companies, both in India and at home, which reached its climax in 1865. The industry recovered but slowly from the effects of the disastrous crisis, and did not again reach a stable position until 1869. Since that date, it has rapidly but steadily progressed, and has been ever opening new fields of enterprise. At the head of the Bay of Bengal in Chittagong District, side by side with coffee on the Nílgiri Hills, on the forest-clad slopes of Chutiá Nágpur, amid the low-lying jungle of the Bhután Dwárs, and even in Arakan, the energetic pioneers of tea-planting have established their industry. Different degrees of success may have rewarded them, but in no case have they abandoned the struggle. The market for Indian tea is practically inexhaustible. There is no reason to suppose that all the suitable localities have yet been tried; and we may look forward to the day when India shall not only rival, but supersede, China in her staple product.

Subsequent history.

Statistics of Indian tea.

Assam.

The following statistics, unless otherwise stated, refer to the year 1877-78. The total area taken up for tea in Assam, including both the Brahmaputra and the Bárak valleys, was 736,082 acres, of which 538,961 acres were fit for cultivation; the total number of separate estates was 1718; the total outturn was 23,352,298 lbs., at the average rate of 286 lbs. per acre under mature plant. In Bengal, the area taken up was

Bengal.

62,642 acres, of which 20,462 acres were under mature plant, including 18,120 acres in the single District of Dárjíling; the number of gardens was 221; the out-turn was 5,768,654 lbs., at the rate of 282 lbs. per acre under mature plant.

N.W. Provinces. In the North-Western Provinces, there were, in 1876, 25 estates in the Districts of Kumáun and Garhwál, with an out-turn of 578,000 lbs., of which 350,000 lbs. were sold in India to Central Asian merchants; and in 1871, 19 estates in Dehra Dún, with 2024 acres under tea, and an out-turn of 297,828 lbs.

Punjab. In the Punjab, there were 10,046 acres under tea, almost entirely confined to Kángrá District, with an out-turn of 1,113,106 lbs., or 111 lbs. per acre.

Madras. In Madras, the area under tea on the Nílgiris was 3160 acres; the exports from the Presidency were 183,178 lbs., valued at £19,308. Excluding the figures just given for Madras, the whole of the Indian tea is shipped from the port of Calcutta, and almost the whole is sent to the United Kingdom.

Total exports. The total exports by sea for 1877-78 were 33,459,075 lbs., valued at £3,044,571. Of the total supply, about 26,000,000 lbs. came from Assam, about 8,000,000 lbs. from Bengal, 787,000 lbs. from the North-Western Provinces, and 684,000 lbs. from the Punjab. In the same year, the exports of tea from the Punjab to Central Asia were returned at 1,217,840 lbs., valued at £181,634, being a considerable decrease on the previous year. In the year 1879-80, the exports of Indian tea to Great Britain rose to 40 million lbs., and the crop of 1880 available for export is (March 1881) estimated to exceed 42 million lbs.

Tea cultivation. The processes of cultivation and manufacture are very similar throughout the whole of India, with the exception that in Upper India the leaf is prepared as green tea for the markets of Central Asia.

Varieties of the tea-plant. Three main varieties are recognised—Assam, China, and Hybrid. The first is the indigenous plant, sometimes attaining the dimensions of a tree; yielding a strong and high-priced tea, but difficult to rear. The China variety, originally imported from that country, is a short bushy shrub, yielding a comparatively weak tea and a small out-turn per acre. The third variety is a true hybrid, formed by crossing the two other species. It combines the qualities of both in varying proportions, and is the kind most sought after by planters. In all cases, the plant is raised from seed, which in

Seed. size and appearance resembles the hazel-nut. The seeds are sown in carefully prepared nurseries in December and January, and at first require to be kept shaded. About April, the seedlings are sufficiently grown to be transplanted, an operation

which continues into July. The site selected for a tea-garden should be comparatively elevated land, for it is essential that water should not lodge round the roots of the plants. In Assam, which may be taken as the typical tea district, the most favourite situation is the slopes of low hills, that everywhere rise above the marshy valleys. On the summit may be seen the neat bungalow of the planter, lower down the coolie lines, while the tea bushes are studded in rows with mathematical precision all round the sides. The best soil is virgin forest land, rich in the decomposed vegetable matter of ages. Great pains are expended to prevent this fertile mould from being washed away by the violence of the tropical rains. In bringing new land into condition, the jungle should be cut down in December, and burned on the spot in February. The ground is then cleaned by the plough or the hoe, and marked out for the seedling by means of stakes planted at regular intervals of about 4 feet from each other.

Sites for tea-gardens.

Soil.

For the first two years, nothing is required except keeping the plants clear of weeds. Afterwards, it is necessary to prune the luxuriant height of the bushes in the cold season of every ensuing year. The prunings should be buried round the roots of the plant for manure. The plants begin to come into bearing in the third year, and gradually reach their maximum yield in their tenth year. The produce consists of the 'flushes,' or successive shoots of young leaves and buds, which first appear in the beginning of the rainy season. There are from five to seven full flushes in the season from March to November. The bushes are picked about every ten days by women and children, who are paid by weight on bringing their baskets to the factory, when the operation of manufacture forthwith begins. The leaf is first spread out lightly on trays or mats, in order that it may 'wither,' *i.e.* become limp and flaccid. Under favourable conditions, this result is effected in a single night; but sometimes the natural process has to be accelerated by exposure in the sun or by artificial heat. The next operation is known as 'rolling,' performed either by the manual labour of coolies or by machinery. The object of this is to twist and compress the leaf into balls, and set up fermentation. The final stage is to arrest fermentation by drying, which may be effected in many ways, usually by the help of machinery. The entire process of manufacture after 'withering,' does not take more than about four hours and a half. All that now remains to do is to sort the tea in sieves, according to size and quality, thus distinguishing the various grades from

Work of a tea-garden; 'flushes;' picking; 'withering;' rolling; drying; sorting.

Flowery Pekoe to Broken Congou, and to pack it for shipment in the well-known tea chests.

Cinchona. The introduction of the quinine-yielding cinchona into India is a remarkable example of success rewarding the indefatigable exertions of a single man. When Mr. Clements Markham undertook the task of transporting the seedlings from South America in 1860, cinchona had never before been reared artificially. But the novel experiment in arboriculture has not only been successfully conducted, but has proved remunerative from a pecuniary point of view. A cheap febrifuge has been provided for the fever-stricken population of the Indian plains, while the surplus bark sold in Europe more than repays interest upon the capital expenditure. These results have been produced from an expenditure of about £100,000. The headquarters of cinchona cultivation are on the Nílgiri Hills, where Government owns several plantations, covering an aggregate of about 1000 acres, with about 570,000 full-grown plants. From the Government plantations, cinchona seeds and plants are annually distributed to the public in large quantities; and there are already several private plantations, rivalling the Government estates in area, and understood to be very valuable properties. The varieties of cinchona most commonly cultivated are C. officinalis and C. succirubra; but experiments are being conducted with C. calisaya, C. pubescens, C. lanceolata, and C. pitayensis. Now that the success of the enterprise is secure, Government has somewhat curtailed the extent of its own operations. No fresh land is being taken up, but the plantations are kept free from weeds. The quinologist's department has been abolished, and the bark is sold in its raw state.

Clements Markham, 1860.

Nílgiri plantations.

Varieties.

From the central establishment of the Government on the Nílgiris, cinchona has been introduced into the Palni Hills in Madura District, into the Wainád, and into the State of Travancore. Plantations have also been successfully opened by Government near Merkára in Coorg, on the Bába Budan Hills in Mysore, and in Tsit-taung (Sitang) District in British Burma. Failure has attended the experiments made at Mahábaleshwar in the Bombay Presidency, and at Nongklao in the Khásí Hills, Assam. But the success of the Government plantation at Dárjíling, in Northern Bengal, rivals that of the original plantation on the Nílgiris. The area has been gradually extended to more than 2000 acres, and the bark is manufactured into quinine on the spot by a Government quinologist. The species mostly grown is C. succirubra, which yields a

Spread of cinchona;

in Southern India;

in Bengal.

red-coloured bark, rich in its total yield of alkaloids, but comparatively poor in quinine proper. Efforts are being made to increase the cultivation of C. calisaya, which yields the more valuable bark; but this species is difficult to propagate. The febrifuge, as issued by the quinologist, is in the form of a nearly white powder, containing the following alkaloids:—Quinine, cinchonidine, cinchonine, quinamine, and what is known as amorphous alkaloid. It has been authoritatively described as 'a perfectly safe and efficient substitute for quinine in all cases of ordinary intermittent fever.' It has been substituted for imported quinine, in the proportion of three-fourths to one-fourth, at all the Government dispensaries, by which measure alone an economy of more than £20,000 a year has been achieved; and it is now eagerly sought after by private druggists from every part of the country.

Cinchona alkaloids.

The following are the financial results of the two Government plantations in 1877-78:—On the Nílgiris, the crop was 138,808 lbs., of which 132,951 lbs. were shipped to England, and the rest supplied to the Madras and Bombay medical departments. The total receipts were £35,875, and the total expenditure £6977, thus showing a net profit of £28,898. At Dárjíling, the crop amounted to 344,225 lbs. of bark, which was all handed over to the quinologist, and yielded 5162 lbs. of the febrifuge. The total receipts were £9707, of which £6188 represents the amount debited to Government departments for the sale of febrifuge and bark, while £3519 was derived from sales to the public. The total expenditure was £8554, of which £5790 was expended upon the plantation, and £2764 on the quinologist's department. The net profit, therefore, was £1150, which is expected shortly to rise to £4000 a year, as more of the young plants come into bearing.

Cinchona statistics, 1878.

Sericulture in India is a stationary, if not a declining industry. The large production in China, Japan, and the Mediterranean countries controls the European markets; and on an average of years, the imports of raw silk into India exceed the exports. The East India Company from the first took great pains to foster the production of silk. As early as 1767, two years after the grant of the financial administration of Bengal had been conferred upon the Company, we find the Governor, Mr. Verelst, personally urging the *zamíndárs*, gathered at Murshidábád for the ceremony of the *Punyá*, 'to give all possible encouragement to the cultivation of mulberry.' In 1769, a colony of reelers was brought from Italy to teach

Silk.

The Company's early silk-factories.

Italian reelers, 1769.

the system followed in the filatures at Novi. The first silk prepared after the Italian method reached England in 1772, and Bengal silk soon became an important article of export. Similar efforts started at Madras in 1793 were abandoned after a trial of five years. The Silk-worm is said to have been introduced into Mysore by Tipú Sultán, and for many years continued to prosper. But recently the worms there have been afflicted by a mysterious epidemic, and despite the enterprise of an Italian gentleman, who imported fresh broods from Japan, the business has dwindled to insignificance. Bengal has always been the chief seat of mulberry cultivation. When the trading operations of the Company ceased in 1833, they owned 11 head factories in that Province, each supplied by numerous filatures, to which the cultivators brought in their cocoons. The annual export of raw silk from Calcutta was then about 1 million lbs. But in those days the weaving of silk formed a large portion of the business of the factories. In 1779, Rennel wrote that at Kasímbázár alone about 400,000 lbs. weight of silk was consumed in the several European factories. In 1802, Lord Valentia describes Jangipur as 'the greatest silk station of the Company, with 600 furnaces, and giving employment to 3000 persons.' Under the new Charter of 1833, the Company's silk trade and its commerce with China was to cease. But it could not suddenly throw out of employment the numbers of people employed upon silk production, and its factories were not entirely disposed of until 1837.

Tipú's experiments, 1795.

Bengal factories, 1779-1833.

Silk area of Bengal.

When the Company abandoned the trade on its own account, sericulture was taken up by private enterprise, and still clings to its old headquarters. At the present time the cultivation of the mulberry is mainly confined to the Rájsháhí and Bardwán Divisions of Lower Bengal. This branch of agriculture, and also the rearing of the silk-worms, is conducted by the peasantry themselves, who are free to follow or abandon the business. The destination of the cocoons is twofold. They may either be sent to small native filatures, where the silk is roughly wound, and usually consumed in the hand-looms of the country; or they may be brought to the great European factories, which generally use steam machinery, and consign their produce direct to Europe. The exports vary considerably from year to year, being determined partly by the local yield, and still more by the prices ruling in Europe. In 1877-78, they were about 1½ million lbs., thus classified:—Raw silk, 658,000 lbs.; *chasan*, or the outer covering of the cocoon, 823,000 lbs.; the aggregate value was £750,439.

Silk statistics, 1878.

In the same year, the total imports of raw silk (chiefly received at Bombay and Rangoon) were a little over 2 million lbs., valued at £678,069.

Mulberry cultivation in Bengal.

The cultivation of the mulberry is chiefly carried on in the Districts of Rájsháhí, Bográ, Maldah, Murshidábád, Bírbhúm, Bardwán, and Midnapur. No accurate statistics are available, but in Rájsháhí alone the area under mulberry is estimated at 80,000 acres. The variety grown as food for the silk-worms is not the fruit-tree with which we are familiar in England, but a comparatively small shrub. Any fairly good land will grow mulberry that does not grow rice. But the shrubs must be preserved from floods; and the land generally requires to be artificially raised in square plots, with broad trenches between, like a chess-board. The mulberry differs from most Indian crops in being a perennial, *i.e.* it will yield its harvest of leaves for several years in succession, provided that care be taken to preserve it. It is planted between the months of November and January. Three growths of silk-worms are usually obtained in the year—in November, March, and August.

Jungle silks (*tasar*) in Bengal;

Besides the silk-worm proper (Bombyx mori), fed upon the mulberry, several other species of silk-yielding worms abound in the jungles of India, and are utilized, and in some cases domesticated, by the natives. Throughout Assam, especially, an inferior silk is produced in this way, which has from time immemorial furnished the common dress of the people. These 'wild silks' are known to commerce under the generic name of *tasar* or *tusser*, but they are really the produce of several distinct varieties of worm, fed on many different trees. The worm that yields *tasar* silk in Chutiá Nágpur has been identified as the caterpillar of Antherœa paphia. When wild, it feeds indiscriminately upon the *sál* (Shorea robusta), the *baer* (Zizyphus jujuba), and other forest trees; but in a state of semi-domestication, it is exclusively reared upon the *ásan* (Terminalia alata), which grows conveniently in clumps. The cocoons are sometimes collected in the jungle, but more frequently bred from an earlier generation of jungle cocoons. The worms require constant attention while feeding, to protect them from crows and other birds. They give three crops in the year—in August, November, and May—of which the second is by far the most important. The *tasar* silk-worm is also found and utilized throughout the Central Provinces, in the hills of the Bombay Presidency, and along the southern slope of the Himálayas. During the past twenty years, repeated attempts have been made to raise this industry out

in Central Provinces;

of its precarious condition, and to introduce *tasar* silk into the European market. That the raw material abounds is certain; but the great difficulty is to obtain it in a state which will be acceptable to European manufacturers. Native spun

in Assam. *tasar* is only fit for native hand-looms. In Assam, two distinct qualities of silk are made, known as *eriá* and *mugá*. The former is obtained from the cocoons of Phalœna cynthia; and the worm is fed, as the native name implies, upon the leaves of the castor-oil plant (Ricinus communis). This variety may be said to be entirely domesticated, being reared indoors. *Mugá* silk is obtained from the cocoons of Saturnia assamungis. The moth, which is remarkable for its size, is found wild in the jungle; but the breed is so far domesticated that cocoons are brought from one part of the Province to another, and the *súm* tree is artificially propagated to supply the worms with food.

Lac.

The collection of lac is in a somewhat similar position to that of *tasar* silk. The lac insect abounds on certain jungle trees in every part of the country; and from time immemorial, it has been collected by the wild tribes, in order to be worked up into lacquered ware. But European enterprise has in vain tried to place the industry upon a stable and remunerative basis. Though lac is to be found everywhere, foreign exportation is almost entirely confined to Calcutta, which draws its supplies from the hills of Chutiá Nágpur, and in a less degree from Assam and Mírzápur in the North-Western Provinces. Lac is known to commerce both as a gum (shell-lac) and as a

Lac statistics, 1878.

dye. In 1878, the total exports of lac of all kinds were 104,717 cwts., valued at £362,244. In 1879, the total exports were 91,983 cwts., valued at £300,072.

Description of lac.

Lac (*láh*) is a cellular, resinous incrustation of a deep orange colour, secreted by an insect (Coccus lacca) round the branches of various trees, chiefly *kúsúm* (Schleichera trijuga), *palás* (Butea frondosa), *pipal* (Ficus religiosa), and *baer* (Zizyphus jujuba). The principal component is resin, forming about 60

Shell-lac. Lac-dye.

or 70 per cent., from which is manufactured the shell-lac of commerce. Lac-dye is obtained from the small cells of the incrustation, and is itself a portion of the body of the female insect. The entire incrustation, while still adhering to the

Stick lac.

twig, is called stick-lac. In order to obtain the largest quantity of dye, the stick-lac should be gathered before the young come out, which happens twice in the year—in January and July. The dye is first extracted by repeated processes of washing and straining, while the shell-lac is worked up from what

remains in a hot and semi-liquid state. For all articles in which a fast colour is not required, lac-dye can never compete with the cheaper and less permanent aniline dyes; while for more lasting colours, cochineal is preferred. Lac-dye, however, is said to be superior even to cochineal in resisting the action of human perspiration; and it is probable that in the event of the supply of cochineal falling off, lac-dye might be used in its stead to produce the regimental scarlet. It has largely replaced cochineal of late years in dyeing officers' coats; and a further extension of its use for similar purposes seems possible. The chief establishment in India for manufacturing lac is situated near Dorandá, in Lohárdagá District, Chutiá Nágpur, to which stick-lac is brought in from all the country round as far as the Central Provinces. The annual out-turn is about 6000 cwts. of shell-lac, made from double that quantity of raw material. In 1877-78, this factory ceased working, owing to the depressed state of the market in Europe.

Model farms.

The efforts of Government to improve the native methods of agriculture, by the establishment of model farms under skilled European supervision, have not been generally successful. In too many cases, the skilled agriculturists from Europe have been gardeners rather than farmers. In other cases, believing only in their own maxims of high cultivation —deep ploughing, subsoil drainage, manuring, and rotation of crops—they have despised the ancient rules of native experience, and have not adapted their Western learning to the circumstances of a tropical country. Nevertheless, many valuable experiments have been made, and much information of a negative character has been gained.

The small success attained.

At the present time, the model farms have been abandoned in Bengal, in Assam, and in the Punjab. In the North-Western Provinces, the propagation of flowers, fruits, vegetables, and trees is still prosecuted. In Bombay, there are three model farms; and in the Central Provinces one, on which the common crops of the country are raised at a loss. The Saidapet farm, near the city of Madras, is the only establishment at which important experiments have been conducted on a scale and with a perseverance sufficient to yield results of value. This farm was started by the Governor, Sir William Denison, in 1865, and has been for the past nine years under the able management of Mr. Robertson. It now (1881) covers an area of 250 acres in a ring fence. Important experiments have been made, of which some have produced encouraging results, indicating the general direction in which improvements

may be effected in the agricultural practice of the Presidency. It has been proved that many of the common 'dry crops' can be profitably cultivated for fodder at all seasons of the year. Those most strongly recommended are yellow *cholam* (Sorghum vulgare), guinea grass (Panicum jumentaceum), and horse-gram (Dolichus uniflorus). Sugar-cane and rice also yield excellent fodder, when cut green. Attention has also been given to subsoil drainage, deep ploughing, the fertilizing powers of various manures, and the proper utilization of irrigation water. It has been decided to establish a school of agriculture at Saidapet (Sydapet), in connection with the model farm, with subordinate branches in the Districts, so as to diffuse as widely as possible the agricultural lessons that have been already learned. In the year 1877-78, the total expenditure was about £600.

Is success possible?

To many it seems doubtful whether such experiments can be made to yield profitable results. The *Hindu Patriot* lately put the case in very pithy words: 'The native cultivators have nothing to learn so far as non-scientific agriculture is concerned, and the adoption of scientific agriculture is wholly beyond their means.' If the only alternative lay between a strictly scientific and an altogether unscientific husbandry, I should have to concur in the *Hindu Patriot's* conclusion. But the choice is not thus limited. In England one little improvement takes place in one district, another small change for the better in another. Strictly scientific farming trebles the produce; a field which produces 730 lbs. of wheat without manure can be made to yield 2342 lbs. by manure. But the native of India has neither the capital nor the knowledge required to attain this result. If, therefore, the problem before him was to increase his crops threefold, I should despair of his success. But the task before him is a much less ambitious one; namely, to gradually increase by perhaps 10 or 20 per cent. the produce of his fields, and not by 300 per cent. at a stroke.

The problem of improved husbandry.

Out-turn of crops.

Wheat land in the North-Western Provinces, which now gives only 840 lbs. an acre, yielded 1140 lbs. in the time of Akbar, and would be made to produce 1800 lbs. in East Norfolk. The average return of food-grains in India shows about 700 lbs. per acre; in England, wheat averages over 1700 lbs. Mr. Hume, the Secretary to the Government of India, in its late Department of Agriculture, declares, 'that with proper manuring and proper tillage, every acre, broadly speaking, of land in the country can be made to yield 30, 50, or 70 per cent. more of every kind of crop than it at present produces;

and with a fully corresponding increase in the profits of cultivation.'

The first impediment to better husbandry is the fewness and weakness of the cattle. 'Over a great portion of the Empire,' writes the Secretary to the late Agricultural Department in India, 'the mass of the cattle are starved for six weeks every year. The hot winds roar, every green thing has disappeared, no hot-weather forage is grown; the last year's fodder has generally been consumed in keeping the well-bullocks on their legs during the irrigation of the spring crops; and all the husbandman can do is just to keep his poor brutes alive on the chopped leaves of the few trees and shrubs he has access to, the roots of grass and herbs that he digs out of the edges of fields, and the like. In good years, he just succeeds; in bad years, the weakly ones die of starvation. But then come the rains. Within the week, as though by magic, the burning sands are carpeted with rank, luscious herbage, the cattle *will* eat and over-eat; and millions die of one form or other of cattle disease, springing out of this starvation followed by sudden repletion with rank, juicy, immature herbage.' He estimates 'the average annual loss of cattle in India by preventable disease' at 10 million beasts, worth $7\frac{1}{2}$ millions sterling. He complains that no real attempt has been made either to bring veterinary knowledge within reach of the people, or to organize a system of village plantation which would feed their cattle through the summer. I shall deal with the statistics and breeds of agricultural stock at pp. 515-518.

The three impediments: (1) Want of cattle.

The second impediment to improved husbandry is the want of manure. If there were more stock, there would be more manure; and the absence of firewood compels the people to use even the scanty droppings of their cattle for fuel. Under such circumstances, agriculture ceases to be the manufacture of food, and becomes a mere spoliation of the soil. Forage crops, such as lucerne, guinea-grass, and the great stemmed millets, might furnish a large supply of cattle-food per acre. Government is now considering whether their cultivation could not be promoted by reducing the irrigation rates on green fodder crops. A system of village plantations would not only supply firewood, but would yield leaves and an undergrowth of fodder sufficient to tide the cattle over their six weeks' struggle for life each summer. In some districts, Government has land of its own which it could thus plant; in others, it is only a sleeping partner in the soil. The system would have to be considerately organized on a legislative basis; but Mr.

(2) Want of manure.

Hume, the highest authority on such a subject, declares the system perfectly practicable. For the details I refer the reader to his valuable pamphlet on 'Agricultural Reform in India.' In Switzerland, the occupiers of *allmends*, or communal lands, have at least in some cantons to keep up a certain number of trees. It seems a fair question whether plantations ought not in many parts of India to be now made an incident of the land tenure; they would go far to solve the two fundamental difficulties of Indian agriculture—the loss of cattle, and the want of manure. The system of State Forestry at present pursued will be described at pp. 517, 519-521.

Utilization of manure.

Meanwhile, the natives set an increasing value on manure. The great cities are being converted from centres of disease into sources of food-supply. For a time, caste prejudices stood in the way of utilizing the night-soil. 'Five years ago,' writes the Secretary to the Poona Municipality, 'agriculturists would not touch the *poudrette* when prepared, and could not be induced to take it away at even a nominal charge. At present, the out-turn of manure is not enough to keep pace with the demand, and the peasants buy it up from four to six months in advance.' At Amritsar, in the Punjab, 30,000 donkey-loads were sold in one year. A great margin still exists for economy, both in the towns and villages; but the husbandman is becoming more alive to the utilization of every source of manure, and his prejudices are gradually giving way under the stern pressure of facts.

(3) Want of water.

The third impediment to improved agriculture in India is the want of water. Mr. Caird, the chief English authority who has inquired into the subject, believes that if only one-third of the cultivated area were irrigated, India would be secure against famine. At any rate, an extension of irrigation would alone suffice to raise the food-supply by more than $1\frac{1}{2}$ per cent. during many years. Since India passed to the Crown, great progress has been made in this direction. Money has been invested by millions of pounds; 200 millions of acres are now under cultivation; and in the five British Provinces which require it most, 28 per cent. of the cultivated area, or say one-third, is artificially supplied with water. Those Provinces are the Punjab, the North-West, Oudh, Sind, and Madras. Looking to what has of late years been done, and to what yet remains to be done by wells and petty works with the aid of loans from the State, I think we may reckon on a vast increase of food from irrigation. The pecuniary and statistical aspects of irrigation will be exhibited at pp. 523-530.

Having thus summarized the three impediments to improved husbandry, I shall now examine in detail the three subjects immediately connected with them, namely the Agricultural Stock of India, Forests, and Irrigation.

Throughout the whole of India, excepting in Sind and the western Districts of the Punjab, horned cattle are the only beasts used for ploughing. The well-known humped breed of cattle predominates everywhere, being divided into many varieties. Owing partly to unfavourable conditions of climate and soil, partly to the insufficiency of grazing ground, and partly to the want of selection in breeding, the general condition of the cattle is miserably poor. As cultivation advances, the area of waste land available for grazing steadily diminishes, and the prospects of the poor beasts are becoming worse rather than better. Their only hope lies in the introduction of fodder crops as a regular stage in the agricultural course. There are, however, some fine breeds in existence, which are carefully fostered. In Mysore, the *amrit mahál*, a breed said to have been introduced by Haidar Alí for military purposes, is still kept up by Government. In the Madras Districts of Nellore and Karnúl, the indigenous breed has been greatly improved under the stimulus of cattle shows and prizes, founded by British officials. In the Central Provinces, there is a high-class breed of trotting bullocks, in great demand for wheeled carriages. The large and handsome oxen of Guzerat in Bombay, and of Hariáná in the Punjab, are excellently adapted for drawing heavy loads in a sandy soil.

Agricultural stock.

Want of fodder.

Famous breeds.

The worst cattle are to be found always in deltaic tracts, but here their place is to a large extent taken by buffaloes. These last are more hardy than ordinary cattle, their character being maintained by crossing the cows with wild bulls, and their milk yields the best *ghí*, or clarified butter. In British Burma, the returns show that the total number of buffaloes is just equal to that of cows and bullocks, being about 700,000 of each. Along the valley of the Indus, and in the sandy desert which stretches into Rájputána, camels supersede cattle for all agricultural operations. In the Punjab, the total estimated number of camels is 170,000.

Buffaloes.

Camels.

The breed of horses has generally deteriorated since the demand for the native Indian strains, for military purposes, declined upon the establishment of British supremacy. In Bengal proper, and in Madras, it may be broadly said that native breeds do not exist. The chief breeds in Bombay are those of the Deccan and of Káthiáwár, in both of which Provinces

Horses.

Government maintains establishments of stallions. The Punjab, however, is the chief source of remounts for our Native cavalry; the total number of horses in that Province being returned at 80,000, in addition to 50,000 ponies. About the beginning of the present century, a stud department was organized by Government to breed horses for the use of the Bengal army, but this system was abolished as extravagant and inefficient by Lord Mayo in 1871. Remounts are now obtained in the open market; but the Government of the Punjab still maintains about 130 stallions, including 60 imported from England, and 40 Arabs. The best Indian horses are bred by the Baluchí tribes along the western frontier.

Government studs.

Horse fairs.

Four great horse fairs are held yearly in the Punjab—at Ráwalpindi, Derá Ghází Khán, Jhang, and Derá Ismáil Khán. At these, about 4500 horses were exhibited in 1877-78, and £1300 were awarded in prizes. The average price given for Native cavalry remounts was only £17. In recent years, much attention has been paid in the Punjab to the breeding of mules for military purposes; and the value of these animals has been conspicuously proved in the course of the operations in Afghánistán. Government maintains about 50 donkey stallions, of which 4 were imported from Spain, 28 from Arabia, and 12 from Bokhára. Some of the mules bred reach the height of 15 hands. The best ponies come from Burma, Manipur (the original home of the game of polo), and Bhután.

Mules.

Ponies.

Elephants.

The catching of wild elephants is now either a Government monopoly, or is conducted under strict Government supervision. The chief source of supply is the north-east frontier, especially the range of hills running between the valleys of the Brahmaputra and the Bárak. During the year 1877-78, about 260 elephants were captured in the Province of Assam, yielding £3600 to Government. Of these, 170 were captured by lessees of the privilege, and 90 by the Government *khedá* department. Elephants are also captured to a smaller extent in the mountains bordering Orissa; in Mysore and Coorg, among the Western Gháts; and in Burma, for the wood trade. They are used by Government for transport, and are eagerly bought up by native chiefs and landowners as objects of display. The wild elephant will be treated of at p. 621.

Numbers caught, 1878.

Sheep and goats.

Sheep and goats are commonly reared in the wilder parts of the country for the sake of their wool. Both their weight for the butcher and their yield of wool are exceedingly low. In Mysore, and at the Saidapet farm, near Madras, attempts have been made to improve the breed of sheep by

crossing with merino rams, although without much success, except at Saidapet. Pigs of great size and most repulsive appearance are everywhere reared, but are eaten only by the lowest of out-castes.

The table on the next page summarizes the information collected regarding live stock in those parts of India where the statistics can be obtained with some approximation to accuracy. But they are offered under the same reservations as those prefixed to the crop returns at p. 499.

Forests.

The forests of India are beginning to receive their proper share of attention, both as a source of natural wealth and as a department of the admininistration. Up to about twenty years ago, the destruction of forests by timber-cutters, by charcoal-burners, and above all, by nomadic cultivation, was allowed to go on everywhere unchecked. The extension of tillage was considered as the chief care of Government, and no regard was paid to the improvident waste of jungle on all sides. But as the pressure of population on the soil became more dense, and the construction of railways increased the demand for fuel, the question of forest conservation forced itself into notice. It was recognised that the inheritance of future generations was being recklessly sacrificed. The importance of forests, as affecting the general meteorology of a country, was also being taught by bitter experience in Europe. On many grounds, therefore, it became necessary to preserve what remained of the forests in India, and to repair the mischief of previous neglect, even at considerable expense. In 1844 and 1847, the subject was actively taken up by the Governments of Bombay and of Madras. In 1864, Dr. Brandis was appointed Inspector-General of Forests to the Government of India; and in the following year the first Forest Act passed the Legislature (No. VII. of 1865). The regular training of candidates for the Forest Department in the schools of France and Germany dates from 1867. In the short interval which has since elapsed, sound principles of forest administration have been gradually extended. Indiscriminate timber-cutting has been prohibited; the burning of the jungle by the hill tribes has been confined within bounds; large areas have been surveyed and demarcated; plantations have been laid out; and generally, forest conservation has become a reality.

Destruction of jungle.

Growth of the Forest Department, 1844-67.

Indian timber-trees.

From a botanical point of view, the forests may be divided into several distinct classes, determined by varying conditions of soil, climate, and rainfall. The king of Indian forest trees is the teak (Tectona grandis), which rivals the British oak as

[*Sentence continued on p.* 519.

APPROXIMATE NUMBERS OF LIVE STOCK AND IMPLEMENTS IN SOME INDIAN PROVINCES IN 1877-78.

	Madras.	Bombay and Sind.	Punjab.	Central Provinces.	British Burma.	Mysore.	Berar.
Bullocks, . . .	3,500,000	3,300,000	6,570,000	5,200,000	714,000	2,300,000	1,400,000
Cows, ...	3,000,000	2,380,000					
Buffaloes, . . .	1,332,000	1,630,000			662,000		
Horses, . . .	21,500	150,000	85,000	12,000	5,800	4,900	6,500
Ponies, . . .	18,000		52,000	82,000		14,000	26,000
Donkeys, . . .	128,000	90,000	290,000	22,000	...	37,000	17,000
Camels, . . .	45	...	170,000	7	...	...	...
Elephants, . . .	604	...	...	...	1,324	...	...
Sheep, . . .	4,600,000	3,300,000	3,850,000	641,000	20,000	1,590,000	386,000
Goats, ...	2,700,000						
Pigs, ...	250,000	...	...	132,000	102,000	32,000	2,700
Carts, ...	284,000	380,000	98,000	286,000	194,000	83,000	89,000
Ploughs, . . .	2,023,000	1,080,000	1,747,000	764,000	293,000	558,000	115,000

Sentence continued from p. 517.]

material for ship-building. The home of the teak is in the Bombay Gháts, Kánara, Cochin, Travancore, and the Burmese peninsula, where it flourishes under an excessive rainfall. Second to teak is the *sál* (Shorea robusta), which is indigenous along the lower slopes of the Himálayas from the Sutlej basin east to Assam, among the hills of Central India, and in the Eastern Gháts down to the Godávari river. On the Himálayas of North-Western India, the distinguishing timber-tree is *deodára* (Cedrus deodara); while on the North-Eastern Himálayan frontier its place is occupied by Pinus khasiana and other trees, such as oak and chestnut, of a temperate zone.

Teak.

Sál.

Deodára.

These noble trees supply the most valuable timber, and are the chief care of the Forest Department. But they are only the aristocracy of countless species, yielding timber, firewood, and other products of value. In the south of the peninsula, the mountain range of the Western Gháts, from Travancore northwards into Kánara, is clothed with an inexhaustible wealth of still virgin forest. Here there are three separate vegetations—(1) an evergreen belt on the seaward face of the mountains, where grow the stately *pún* (Calophyllum elatum), valuable as spars for ships, the *anjili* or wild jack (Artocarpus hirsutus), and a variety of ebony (Diospyros ebenum); (2) a belt of mixed forest, varying from 10 to 40 miles in width, which yields teak, blackwood (Dalbergia latifolia), and Lagerstrœmia microcarpa, and here and there continuous avenues of lofty bamboos; (3) a dry belt, extending over the central plateau, in which the vegetation declines in size and abundance. The precious sandal-wood (Santalum album), limited almost entirely to Mysore and Kánara, thrives best on a stony soil, with a light rainfall. In the Bombay Presidency, the chief forest areas, excluding Kánara, are to be found in the extension of the Western Gháts, known as the Sahyádri range, and in the delta of the Indus in the outlying Province of Sind.

South Indian forests.

The three forest-belts.

Sandal-tree.

The Sind river-valley forests present many peculiar features. They are locally reported to have been formed as game preserves by the Mírs or Musalmán rulers, and are divided into convenient blocks or *belás*, fringing the entire course of the Indus. Being absolute State property, their management is embarrassed by no difficulties, excepting those caused by the uncontrollable floods of the river. They furnish abundant firewood, but little timber of value, their chief produce being *bábúl* (Acacia arabica), *bhán* (Populus euphratica),

Sind forests.

Punjab forests.

and *tamarisk* (Tamarix indica). In the Punjab, the principal forests of *deodára* (Cedrus deodara) lie beyond the British frontier, in the Himálayan valleys of the great rivers; but many of them have been leased from the bordering States, in order to secure a supply of firewood and railway sleepers. On the Punjab plains, the only woods are those growing on the *rákhs* or upland plateaux which rise between the converging river basins. The chief trees found here are varieties of Prosopis, Capparis, and Salvadora; but the Forest Department is now laying out more valuable plantations of *sissu* (Dalbergia sissu), *baer* (Zizyphus jujuba), and *kikar*.

Forests of N.-W. Provinces,

The North-Western Provinces present the Himálayan type of forest in Kumáun and Garhwál, where the characteristic trees are the *chíl* (Pinus excelsa) and *chír* (Pinus longifolia), with but little *deodára*. Farther west occurs a forest-belt of *sál*, which may be said to form the continuous boundary between Nepál and British territory. Owing to the facility of water communication and the neighbourhood of the great cities of Hindustán, these *sál* forests have long ago been stripped of their valuable timber, and are but slowly recovering under the care of the Forest Department. Oudh and Northern Bengal continue the general features of the North-Western Provinces; but the hill station of Dárjíling is surrounded by a flora of the temperate zone.

of Oudh and N. Bengal.

Sundarban forests.

Calcutta has, from its foundation, drawn its supply of firewood from the inexhaustible jungles of the SUNDARBANS, which have recently been placed under forest conservancy rules. This tract, extending over 3000 square miles, is a dismal swamp, half land, half sea, half fresh water, overgrown by an almost impenetrable jungle of timber-trees and underwood. The most valued wood is the *sundari* (Heretiera littoralis), which is said to give its name to the tract. Assam and Chittagong, like the Malabar coast and British Burma, still possess vast areas of virgin forest, although the more accessible tracts have been ruthlessly laid waste. Beside *sál* and Pinus khasiana, the timber-trees of Assam include *nahor* or *nágeswar* (Mesua ferrea), *súm* (Artocarpus chaplasa), and *járul* (Lagerstrœmia reginæ). Ficus elastica, yielding the caoutchouc of commerce, was formerly common, but now the supply is chiefly brought from beyond the frontier. Plantations of teak, *tún* (Cedrela toona), *sissu*, and Ficus elastica are now being formed and guarded by the Forest Department. In Burma, the importance of teak exceeds that of all the other timber-trees together. Next comes iron-wood (Xylia dolabri-

Assam forests.

Burmese forests.

formis), and Acacia catechu, which yields the cutch of commerce. Throughout the centre of the peninsula, forests cover a very extensive area; but their value is chiefly local, as none of the rivers are navigable. Towards the east, *sál* predominates, and in the west there is some teak; but fine timber of either species is comparatively scarce. Rájputána has a beautiful tree of its own, a variety of Anogeissus, with small leaves and drooping branches.

Central India.

From the administrative point of view, the Indian forests are classified as 'reserved' or as 'open.' The reserved forests are those under the immediate control of officers of the Forest Department. They are managed as the property of the State, with a single eye to their conservancy and future development as a source of national wealth. Their limits are demarcated after survey; nomadic cultivation by the hill tribes is prohibited; cattle are excluded from grazing; destructive creepers are cut down, and the hewing of timber, if permitted at all, is placed under stringent regulations. The open forests are less carefully guarded; but in them, also, certain kinds of timber-trees are preserved. A third class of forest lands consists of plantations, on which large sums of money are spent annually, with a view to the rearing and development of timber-trees. It is impossible to present, in a single view, the entire results of the labours of the Forest Department. In 1872-73, the total area of reserved forests in India was estimated at more than 6,000,000 acres; and the area has probably been doubled since that date. In the same year, the total forest revenue was £477,000, as compared with an expenditure of £295,000, thus showing a surplus of £182,000. By 1877-78, the revenue had increased to £664,102, of which £160,308 was derived from British Burma, and £126,163 from Bombay. The forest exports in that year included—teak, valued at £406,652; lac and lac-dye, £362,008; caoutchouc, £89,381; and gums, £183,685. But these figures fail to exhibit the true working of the Forest Department, which is gradually winning back for India the fee-simple of her forest wealth, when it was on the point of being squandered beyond the possibility of redemption.

Forest administration. 'Reserved' forests. 'Open' forests. 'Plantations.' Forest finance, 1872-78.

The practice of nomadic cultivation by the hill tribes may conveniently be described in connection with forest conservation, of which it is the most formidable enemy. In all the great virgin forests of India, in Arakan, on the north-east frontier of Assam and Chittagong, throughout the Central Provinces, and along the line of the Western Gháts, the aboriginal tribes raise their crops of rice, cotton, and

Nomadic cultivation. Its area.

millets by a system of nomadic tillage. A similar method has been found in Madagascar; and, indeed, from its simplicity and its appropriateness, it may fairly be called the most primitive form of agriculture known to the human race. Known as *toungya* in Burma, *júm* on the north-east frontier, *dahya* in Central India, *kil* in the Himálayas, and *kumárí* in the Western Gháts, it is practised without any material differences by tribes of the most diverse origin. Its essential features are the burning

Its varieties.

down of a patch of forest, and sowing the crop with little or no tillage in the clearing thus formed. The tribes of the Bombay coast break up the cleared soil with a sort of hoe-pick and spade, or even with the plough; in other parts of India, the soil is merely scratched, or the seed scattered on its surface without any cultivation. In some cases, a crop is taken off the same clearing for two or even three years in succession; but more usually the tribe moves off every year to a fresh field of operations. Every variety of implement is used, from the bill-hook, used alike for hewing the jungle and for turning the soil, to the plough. Every degree of permanence in the cultivation may be observed, from a one-year's crop to the stage at which an aboriginal tribe, such as the Kandhs, visibly passes from nomadic husbandry to regular tillage.

To these nomad cultivators the words rhetorically used by Tacitus of the primitive Germans are strictly applicable

Its destructiveness.

—*Arva per annos mutant; et superest ager.* The wanton destruction wrought by them in the forest is incalculable. In addition to the timber-trees deliberately burned down to clear the soil, the fire thus started not unfrequently runs wild through the forest, and devastates many square miles. Wherever timber has any value from the proximity of a market, the first care of the Forest Department is to prohibit these fires, and to assign heavy penalties for any infringement

Restraints on it.

of its rules. The success of a year's forest operations is mainly estimated by the degree in which the reserves have been saved from the flames.

Merits of nomadic tillage.

But vast tracts of country yet remain in which it would be equally useless and impossible to place restraints upon nomad cultivation. The system yields a larger return for the same amount of labour than permanent plough-husbandry. A virgin soil, manured many inches deep with ashes, and watered by the full burst of a tropical rainfall, returns forty and fifty-fold of rice, which is the staple grain thus raised. In addition to rice, Indian corn, millet, oil-seeds, and cotton, are sometimes grown in the same clearing, the seeds being all thrown into the

ground together, and each crop ripening in succession at its own season. Except to the eyes of a forest officer, a patch of nomadic tillage is a very picturesque sight. Men, women, and children all work together with a will, for the trees must be felled and burned, and the seed sown, before the monsoon breaks. Save on the western coast and the Gháts (where the plough is occasionally used), the implement generally employed for all purposes is the *dáo* or hill-knife, which performs the office alike of axe, hoe, dibbler, and sickle.

Irrigation.

In a tropical country, where the rainfall is capricious in its incidence and variable in its amount, the proper control of the water supply becomes one of the first cares of Government. Its expenditure on irrigation works may be regarded as an investment of the landlord's capital, by which alone the estate can be rendered profitable. Without artificial irrigation, large tracts of country would lie permanently waste, while others could only be cultivated in exceptionally favourable seasons. Irrigation is to the Indian peasant what high cultivation is to the farmer in England. It augments the produce of his fields in a proportion far larger than the mere interest upon the capital expended. It may also be regarded as an insurance against famine. When the monsoon fails for one or two seasons in succession, the cultivator of 'dry lands' has no hope; while abundant crops are raised from the fortunate fields commanded by irrigation works. This contrast has recently been witnessed with vividness in Southern India, where the limit between famine and plenty was marked by the boundaries of the irrigated and non-irrigated areas. But it would be an error to conclude that any outlay will absolutely guarantee the vast interior of the peninsula from famine. Much, indeed, can be done, and much is being done, year by year, to store and distribute the scanty and irregular water supply of this inland plateau. But engineering possibilities are limited, not only by the expense, but by the unalterable laws of nature. A tableland, with only a moderate rainfall, and watered by few perennial streams, broken by many hill ranges, and marked out into no natural drainage basins, can never be entirely saved from the vicissitudes of the Indian seasons.

Its function in India, during famine.

Irrigation areas.

Irrigation is everywhere dependent upon the two supreme considerations of water supply and land level. The sandy desert which extends from the hills of Rájputána to the basin of the Indus, is even more absolutely closed to irrigation than the confused system of hill and valley in Central India.

Farther west, in the Indus valley, irrigation becomes possible, and in no part of India has it been conducted with greater perseverance and success. The entire Province of Sind, and several of the lower Districts of the Punjab, are absolutely dependent upon the floods of the Indus. Sind has been compared to Egypt, and the Indus to the Nile; but in truth, the case of the Indian Province is the less favourable of the two. In Sind, the average rainfall is barely 10 inches in the year; the soil is a thirsty sand; worst of all, the river does not run in confined banks, but wanders at its will over a wide valley. The rising of the Nile is a beneficent phenomenon, which can be depended upon with tolerable accuracy, and which the industry of countless generations has brought under control for the purposes of cultivation. The inundation of the Indus is an uncontrollable torrent, which often does as much harm as good.

Sind.

The uncontrollable Indus.

Broadly speaking, no crop can be grown in Sind except under irrigation. The cultivated area of $2\frac{1}{4}$ million acres may be regarded as entirely dependent upon artificial water supply, although not entirely on State irrigation works. The water is drawn from the river by two classes of canals—(1) inundation channels, which only fill when the Indus is in floods; and (2) perennial channels, which carry off water by means of dams at all seasons of the year. The former are for the most part the work of ancient rulers of the country, or of the cultivators themselves; the latter have been constructed since the British conquest. In both cases, care has been taken to utilize abandoned beds of the river. Irrigation in Sind is treated as an integral department of the land administration. In 1876-77, about 900,000 acres were returned as irrigated from works for which capital and revenue accounts are kept, the chief of these being the Ghár, Eastern and Western Nárá, Sukkur (Sakhar), Phuleli and Pinyari; the total receipts were about £190,000, almost entirely credited under the head of land revenue. In the same year, about 445,000 acres were irrigated from works of which revenue accounts only are kept, yielding about £75,000 in land revenue. The total area usually irrigated in Sind was returned in 1880 at 1,800,000 acres, out of a cultivated area of 2,250,000 acres.

Irrigation in Bombay.

In the Bombay Presidency, irrigation is conducted on a comparatively small scale, and mainly by private enterprise. In the Konkan, along the coast, the heavy local rainfall, and the annual flooding of the numerous small creeks, permit rice to be grown without artificial aid. In Guzerat the supply

is drawn from wells, and in the Deccan from tanks; but both of these are liable to fail in years of deficient rainfall. Government has now undertaken a few comprehensive schemes of irrigation in Bombay, conforming to a common type. They dam up the head of a hill valley, so as to form an immense reservoir, and then conduct the water over the field by channels, which are in some cases of considerable length. In 1876-77, the total area in Bombay (excluding Sind) irrigated from Government works was about 180,000 acres, yielding a revenue of about £42,000. In the same year, the expenditure on irrigation (inclusive of Sind) was £65,000 under the head of extraordinary, and £170,000 under the head of ordinary; total, £235,000. Ordinary irrigated area in Bombay, 450,000 acres, out of a total cultivated area of 24½ million acres.

Irrigation in the Punjab.

In some parts of the Punjab, irrigation is only one degree less necessary than in Sind, but the sources of supply are more numerous. In the northern tract, under the Himálayas, and in the upper valleys of the Five Rivers, water can be obtained by digging wells from 10 to 30 feet below the surface. In the south, towards Sind, 'inundation channels' are usual. The upland tracts which rise between the basins of the main rivers are now in course of being supplied by the perennial canals of the Government. According to the returns for 1877-78, out of a grand total of 22,640,894 acres under cultivation, 5,000,481 were irrigated by private individuals, and 1,618,854 by public 'channels;' total area under irrigation, 6,619,535 acres, or 29 per cent. of the cultivated area. The principal Government works in the Punjab are the Western Jumna Canal, the Bárí Doáb Canal, and the Sirhind; the latter of which, with the largest expenditure, is still incomplete. I have elsewhere given an account of each of these works.[1] Up to the close of 1877-78, the capital outlay had been £3,645,189; the total income in that year was £263,053, of which £171,504 was classified as direct, and £91,549 as indirect; the total revenue charges on works in operation were £224,316, of which £146,419 was for maintenance, and £77,897 for interest, thus showing a surplus of £38,737. On the Western Jumna Canal, taken singly, the net profit was £83,112. Ordinary irrigated area in the Punjab, 5½ millions of acres, out of a total cultivated area of over 21 million acres.

The North-Western Provinces present, in the great *doáb*, or

[1] See articles JUMNA CANAL, Eastern and Western, *Imperial Gazetteer*, vol. v. pp. 120-123; BARI DOAB CANAL, vol. i. pp. 444-446; SIRHIND CANAL, vol. viii. p. 391.

Irrigation in the N.-W. Provinces.

high land between the Ganges and the Jumna, a continuation of the physical features to be found in the Upper Punjab. The local rainfall, indeed, is heavier, but before the days of artificial irrigation each recurring drought resulted in a terrible famine. It is in this tract that the British Government has been perhaps most successful in averting such calamities. In Sind, irrigation is an absolute necessity; in Lower Bengal, it may be regarded almost as a luxury; but in the great river basins of Upper India, it serves the threefold object of saving the population from the vicissitudes of the season, and of introducing more valuable crops, with higher methods of agriculture. Concerning private irrigation from wells in the North-Western Provinces, no information is available.

The great canals of the Doábs.

The great Government works are the Ganges Canal, the Eastern Jumna Canal, the Agra Canals, and the Lower Ganges Canal, the last of which is not yet complete.[1] Up to the close of 1877-78, the total outlay had been £5,673,401. The gross income in that year was £438,136, of which £337,842 was derived from water rates, and £100,294 from enhanced land revenue; the working expenses amounted to £143,984, leaving £294,152 for surplus profits, or 6·77 per cent. on the total capital expended on works in operation. The total area irrigated was 11,461,428 acres, of which two-thirds were supplied by the Ganges Canal. Of the irrigated area, 415,659 acres were under wheat and 139,375 under sugar-cane. Ordinary area under irrigation in the North-Western Provinces and Oudh, 11½ million acres, out of a total cultivated area of 36 million acres.

Irrigation in Oudh.

No irrigation works have yet been introduced into Oudh by Government. A tolerable local rainfall, the annual overflow of the rivers, and an abundance of low-lying swamps, combine to furnish a water supply which is ample in all ordinary years. According to the Settlement returns, out of a total cultivated area of 8,276,174 acres, 2,957,377 acres, or 36 per cent., are irrigated by private individuals; but this figure probably includes low lands watered by natural overflow.

Irrigation in Bengal Proper.

Throughout the greater part of Bengal Proper, there is no demand for artificial irrigation, but Government has undertaken to construct works in those exceptional tracts where experience has shown that occasional drought is to be feared. In the broad valleys of the Ganges and the Brahmaputra, and along the deltaic seaboards, flood is a more formidable

[1] A full account of each of these works will be found under article GANGES CANAL, *Imperial Gazetteer*, vol. iii. pp. 296-301.

enemy than drought; and embankments here take the place of canals. The Public Works Department in Lower Bengal has over 2000 miles of embankments under its charge, upon which £79,105 was expended in 1877-78, either as direct outlay or in advances to landowners. The wide expanse of Northern Bengal and Behar, stretching from the Himálayas to the Ganges, is also rarely visited by drought; although, when drought does come, the excessive density of the population brings the danger of famine very near. In Sáran District alone has it been found necessary to carry out a scheme for utilizing the discharge of the river Gandak.

The great irrigation works in Lower Bengal are two in number, and belong to two different types:—(1) In the delta of Orissa, an extensive system of canals has been constructed on the pattern of those lower down the Coromandel coast. They store up the water by means of a weir or anicut thrown across the Mahánadi river.[1] The Orissa works are intended to avert the danger of both drought and flood, and also to be useful for navigation. In average seasons, *i.e.* in five years out of six, the local rainfall is sufficient for the rice crop, which is here the sole staple of cultivation; and therefore it is not to be expected that these canals will be directly remunerative. But, on the other hand, if they have saved the Province from a repetition of the disastrous year 1865-66, the money will not have been expended in vain. A canal, originally designed as a branch of the Orissa works, runs through Midnapur District and debouches on the Húglí. (2) In South Behar, the flood discharge of the Son has been intercepted, after the system of engineering followed in the North-West, so as to irrigate a comparatively thirsty strip of land extending along the south bank of the Ganges, where distress has ere now been severely felt.[2] In this case, also, the expenditure must be regarded rather as an insurance fund against famine than as reproductive outlay. The works are not yet complete, but the experience already gained proves that irrigation is wanted even in ordinary seasons. Up to the close of 1877-78, the capital expenditure on all the State irrigation works in Lower Bengal was £4,653,903; the gross income for the year was £49,477; the working expenses were £70,286, and the estimated interest on capital, at 4½ per cent., amounted to £203,971, thus showing a net deficit of £224,780. The area irrigated was about 400,000 acres. The whole area irrigated

The Orissa works.

The Son works.

[1] See article MAHANADI, *Imperial Gazetteer*, vol. vi. pp. 198-205.

[2] See article SON CANALS, *Imperial Gazetteer*, vol. viii. pp. 429-432.

from both public and private sources in Bengal proper is returned at 1 million acres, out of an estimated area of 54½ million acres under cultivation.

Irrigation in Madras. In the Madras Presidency, and generally throughout Southern India, facilities for irrigation assume a decisive importance in determining the character of agriculture. Crops dependent on the rainfall are distinguished as 'dry crops,' comprehending the large class of millets. Rice is grown on 'wet land,' which means land capable of being irrigated. Except on the Malabar or western coast, the local rainfall is nowhere sufficiently ample, or sufficiently steady, to secure an adequate water supply. Everywhere else, water has to be brought to the fields from rivers, from tanks, or from wells. Of the total cultivated area of Madras, 17 per cent. is *assessed* as 'wet land;' or 5⅓ millions of acres out of a cultivated area of 32 millions. But the *actual* irrigated area is nearly 7⅓ millions of acres. From time immemorial, an industrious population has made use of all the means available to store up the rainfall, and direct the river floods over their fields. The upland areas are studded with tanks, which sometimes cover square miles of ground; the rivers are crossed by innumerable anicuts or dams, by which the floods are diverted into long aqueducts. Most of these works are now the property of Government, which annually expends large sums of money in maintenance and repairs, looking for remuneration only to the augmented land revenue. The average rate of assessment is 9s. 6d. per acre on irrigated land, as compared with only 2s. 3d. per acre on unirrigated land.

'Dry' and 'wet' land.

Works in the Madras deltas. It is therefore not only the duty, but the manifest advantage, of Government to extend the facilities for irrigation in Madras, wherever the physical aspect of the country will permit. The deltas of the Godávari, the Kistna, and the Káveri (Cauvery), have within recent years been traversed by a network of canals, and thus guaranteed against risk of famine.[1] Smaller works of a similar nature have been carried out in other places; while a private company, with a Government guarantee, has undertaken the more difficult task of utilizing on a grand scale the waters of the Tungabhadra[2] amid the hills and vales of the interior. The *assessed* irrigated area in the Presidency, of 5⅓ million acres, yields a land revenue of 2 millions sterling. Of this total, 1,680,178 acres, with a revenue of £739,778, are irrigated by eight great systems, for which revenue and

[1] See article GODAVARI RIVER, *Imperial Gazetteer*, vol. iii. pp. 414-41

[2] See article TUNGABHADRA, *Imperial Gazetteer*, vol. ix.

capital accounts are kept. The minor works consist of about 35,000 tanks and irrigation canals, and about 1140 anicuts or dams across streams. The whole area under irrigation from public and private sources in Madras is, as already stated, 7⅓ million acres, out of a total cultivated area of 32 million acres.

In Mysore, tanks, anicuts, and wells dug in the dry beds of rivers afford the means of irrigation. Since the late disastrous famine, comprehensive schemes of throwing embankments across river valleys have been undertaken by Government. The whole area under irrigation from public and private sources in Mysore is ¾ of a million acres, out of a total cultivated area of 5 million acres. Irrigation in Mysore.

In the Central Provinces, irrigation still remains a private enterprise. According to the settlement returns, out of a total cultivated area of 13,610,503 acres, 804,378 acres, or 6 per cent., are irrigated by private individuals. The only Government work is a tank in the District of Nimar. In British Burma, as in Lower Bengal, embankments take the place of canals, being classed as 'irrigation works' in the annual reports. Within the last few years, Government has spent about £318,000 under this heading, in order to save the low rice-fields along the Irawadi from destructive inundation. In Central Provinces.

The following figures, applying to India as a whole, show how far the Government have lately performed their duty as a landlord in undertaking productive public works. During the ten years ending March 1878, a total sum of £10,457,702 was expended on irrigation under the budget heading of 'extraordinary,' as compared with £18,636,321 expended on State railways in the same period,—total, 29 millions. In 1879, the total had risen to about 32 millions. In the twelve months ending March 1878, irrigation yielded a gross income of £495,142, as compared with £548,528 derived from State railways; while £370,747 was charged to revenue account against irrigation, and £420,754 against State railways. Statistics for British India.

The following table shows the extent of cultivation and the average area irrigated in the Provinces, for which the facts can be obtained. They must be taken as only approximate estimates. They differ slightly from data obtained from other sources; as may be seen by comparing the return for the Central Provinces with the somewhat larger one obtained from the Settlement Officers, and given above in the text:—

AREA OF CULTIVATION AND OF IRRIGATION IN CERTAIN PROVINCES.

Province.	Area ordinarily cultivated.	Area ordinarily irrigated.	Percentage of irrigation to cultivation.
	Acres.	Acres.	
Punjab,	21,000,000	5,500,000	26·2
North-Western Provinces and Oudh,	36,000,000	11,500,000	32·0
Bengal,	54,500,000	1,000,000	1·8
Central Provinces,	15,500,000	770,000	5·0
Berar,	6,500,000	100,000	1·5
Bombay,	24,500,000	450,000	1·8
Sind,	2,250,000	1,800,000	80·0
Madras,	32,000,000	7,300,000	23·0
Mysore,	5,000,000	800,000	16·0
Total for the Provinces for which the facts can be ascertained,	197,250,000	29,220,000	14·8

Distribution of irrigation over India.

Sind.

Northern India.

It will be seen from the above table that irrigation is most resorted to in the Provinces with the scantiest or most precarious rainfall. In Sind, tillage depends almost entirely on an artificial water supply; and four-fifths of the cultivated area are ascertained to be irrigated. In Northern India, the deficient rainfall of the Punjab and the high-lying *doábs*, or intermediate river plains of the North-Western Provinces, also demand a large measure of irrigation. The irrigated area, accordingly, amounts to from over one-fourth to one-third of the whole cultivation. In Madras, it is under one-fourth; in Mysore, it is one-sixth; in the Central Provinces, it is one-twentieth. But the dry uplands of Bombay, the Central Provinces, and Berar, where the proportion of irrigated lands sinks to about one-sixtieth, undoubtedly require a larger artificial water supply than they possess at present. The black soil of these tracts, however, is very retentive of moisture. To a certain extent it stores up and husbands the rainfall. It thus lessens the necessity for irrigation. In Bengal, where the irrigated area is only 1·8 per cent. of the cultivated area, the abundant rainfall and the inundations of the Ganges, the Brahmaputra, the Mahánadi, and of the river systems connected with these main arteries, take the place of canals or an artificial water supply.

Southern India.

Central India.

Lower Bengal.

Natural calamities.

FAMINES.—In any country where the population is dense and the means of communication backward, the failure of a harvest, whether produced by drought, by flood, by blight, by

locusts, or by war, causes intense distress. Whether such distress shall develop into famine is merely a matter of degree, depending upon a combination of circumstances—the comparative extent of the failure, the density of the population, the practicability of imports, the facilities for transport, the resources of private trade, and the energy of the administration.

Causes of scarcity;

Drought, or a failure of the regular rainfall, is the great cause of famine. No individual foresight, no compensating influences, can prevent those recurring periods of continuous drought with which large Provinces of India are afflicted. Even an average rainfall in any one year, if irregularly distributed, or at the wrong seasons, may affect the harvest to a moderate degree; so also may flood or blight. The total failure of one monsoon may result in a general scarcity.

and of real famine.

But famine proper, or wide-spread starvation, is caused only by a succession of years of drought. The cultivators of India are not dependent upon a single harvest, or upon the crops of one year. In the event of a partial failure, they can draw for their food supply either upon their own grain pits or upon the stores of the village merchants. The first sufferers, and those who also suffer most in the end, are the class who live by daily wages. But small is the number that can hold out, either in capital or credit, against a second year of insufficient rainfall; and the third season sometimes proves adverse. All great famines in India have been caused by drought, and usually by drought repeated over two or three years.

Water supply.

It becomes necessary to inquire into the means of husbanding the water supply. That supply can be derived only from three sources—(1) Local rainfall; (2) natural inundation; and (3) artificial irrigation from rivers, canals, tanks, or wells. Any of these sources may exist separately or together. In only a few parts of India can the rainfall be entirely trusted, as both sufficient in its amount and regular in its distribution. These favoured tracts include the whole strip of coast beneath the Western Gháts, from Bombay to Cape Comorin; the greater part of the Provinces of Assam and Burma; together with the deltaic districts at the head of the Bay of Bengal. In these Provinces the annual rainfall rarely, if ever, falls below 60 to 100 inches; artificial irrigation and famine are alike unknown.

Favoured Provinces.

The irrigation area of India.

The rest of the Indian peninsula may be described as liable, more or less, to drought. In Orissa, the scene of one of the most severe famines of recent times, the average rainfall exceeds 60 inches a year; in Sind, which has been exceptionally free from famine under British rule, the average drops

to less than 10 inches. The local rainfall, therefore, is not the only element to be considered. Broadly speaking, artificial irrigation has protected, or is now in course of protecting, certain fortunate regions, such as the eastward deltas of the Madras rivers and the upper valley of the Ganges. The rest, and by far the greater portion, of the country is still exposed to famine. Meteorological science may teach us to foresee what is coming.[1] But it may be doubted whether administrative efforts can do more than alleviate the calamity when once famine has declared itself. Lower Bengal and Oudh are watered by natural inundation as much as by the local rainfall; Sind derives its supplies mainly from canals filled by the floods of the Indus; the Punjab and the North-Western Provinces are dependent largely upon wells; the Deccan, with the entire south, is the land of tanks and reservoirs. But in all these cases, when the rainfall has failed over a series of years, the artificial supply must likewise fail after no long interval, so that irrigation becomes a snare rather than a benefit. Waterworks on a scale adequate to guarantee the whole of India from drought not only exceed the possibilities of finance; they are also beyond the reach of engineering skill.

Irrigation area of India.

Summary of Indian famines, 1770-1854.

The first great famine of which we have any trustworthy record is that which devastated the lower valley of the Ganges in 1769-70. One-third of the population is credibly reported to have perished. The previous season had been bad; and, as not uncommonly happens, the break-up of the drought was accompanied by disastrous floods. Beyond the importation into Calcutta and Murshidábád of a few thousand hundredweights of rice from the Districts of Bákarganj and Chittagong, it does not appear that any public measures for relief were taken or proposed.[2] The next great famine was that which afflicted the Karnatic from 1780 to 1783, and has been immortalized by the genius of Burke. It arose primarily from the ravages of Haidar Alí's army. A public subscription was organized by the Madras Government, from which sprang the 'Monegar Choultry,' or permanent institution for the relief of the native poor. In 1783-84 Hindustán Proper suffered from a prolonged drought, which stopped short at the frontier of British territory. Warren Hastings, then Governor-General,

[1] See *post*, pp. 617, 618.

[2] A full account of the famine of 1769-70 is given in my *Annals of Rural Bengal*, pp. 19-55 (5th ed.). The official record of this and the subsequent famines will be found in the *Report of the Indian Famine Commission*, presented to Parliament 1880, part i. paras. 62-84.

advocated the construction of enormous granaries, to be opened only in times of necessity. One of these granaries or *golás*, stands to the present day in the city of Patná, but it was never used until the scarcity of 1874. In 1790-92, Madras was again the scene of a two years' famine, which is memorable as being the first occasion on which the starving people were employed by Government on relief works. Famines again occurred in Southern India in 1802-04, 1807, 1812, 1824, 1833, 1854, and 1866. A terrible dearth in 1838 caused great mortality in the North-Western Provinces.

Famines of 1861; But so little was done by the State in these calamities, that few administrative lessons can be learned from them. In 1860-61, however, a serious attempt was made to alleviate an exceptional distress in the North-Western Provinces. About half a million persons are estimated to have been relieved, at an expenditure by Government of about three-quarters of a million sterling. **and of 1866.** Again, in 1865-66, which will ever be known as the year of the Orissa famine, the Government attempted to organize relief works and to distribute charitable funds. But on neither of these occasions can it be said that its efforts were successful. In Orissa, especially, the admitted loss of one-fourth of the population proves the danger to which an isolated Province is exposed. The people of Orissa died because they had no surplus stocks of grain of their own; and because importation, on an adequate scale, was physically impossible by sea or land.

Passing over the prolonged drought of 1868-70 in the North-Western Provinces and Rájputána, we come to the Behar scarcity of 1873-74, which first attracted the interest of England. Warned by the failure of the rains, and watched and stimulated by the excited sympathy of the public in England, the Government carried out in time a comprehensive scheme of relief. By the expenditure of 6½ millions sterling, and the importation of 1 million tons of rice, all risk even of the loss of life was prevented. The comparatively small area of distress, and the facilities of communication by rail and river, allowed of the accomplishment of this feat, which remains unparalleled in the annals of famine.

Famine of 1876-78. The famine of 1876-78 is the widest spread and the most prolonged that India has experienced. The drought commenced in Mysore by the failure of the monsoon in 1875; and the fear of distress in the North-Western Provinces did not pass away until 1879. But it will be known in history as the great famine of Southern India. Over the entire

Deccan, from Poona to Bangalore, the south-west monsoon failed to bring its usual rainfall in the summer of 1876. In the autumn of the same year, the north-east monsoon proved deficient in the south-eastern Districts of the Madras Presidency. The main food crop perished throughout an immense tract of country; and, as the harvest of 1875 had also been short, prices rapidly rose to famine rates. In November 1876, starvation was already at work, and Government adopted measures to keep the people alive. The next eighteen months, until the middle of 1878, were devoted to one long campaign against famine. The summer monsoon of 1877 proved a failure; some relief was brought in October of that year by the autumn monsoon; but all anxiety was not removed until the arrival of a normal rainfall in June 1878.

Failure of rain, 1876.

Failure of rain, 1877.

Scarcity in Northern India, 1877-78.

Meanwhile the drought had reached Northern India, where it found the stocks of grain already drained to meet the famine in the south. Bengal, Assam, and Burma were the only Provinces which escaped in that disastrous year. The North-Western Provinces, the Punjab, Rájputána, and the Central Provinces suffered from drought throughout the summer of 1877, and, from its consequences, far into the following year. When once famine gets ahead of relief operations, the flood of distress bursts its embankments, and the people simply perish. Starvation and the long attendant train of famine-diseases sweep away their hundreds of thousands. The importation of grain was left entirely free, and within twelve months 268,000 tons were brought by land, and 166,000 tons by sea, into the distressed Districts.

Famine expenditure, 1876-78.

The total expenditure of Government upon famine relief on this occasion may be estimated at 11 millions sterling, not including the indirect loss of revenue nor the amount debited against the State of Mysore. For this large sum of money there is but little to show in the shape of works constructed. The largest number of persons in receipt of relief at one time in Madras was 2,591,900 in September 1877; of these only 634,581 were nominally employed on works, while the rest were gratuitously fed. From cholera alone the deaths were returned at 357,430 for Madras Presidency, 58,648 for Mysore, and 57,252 for Bombay. Dr. Cornish, the Sanitary Commissioner of Madras, well illustrated the effects of the famine by the returns of births and deaths over a series of years. In 1876, when famine, with its companion cholera, was already beginning to be felt, the births registered in Madras numbered 632,113, and the deaths 680,381. In 1877, the

Cholera.

year of famine, the births fell to 477,447, while the deaths rose to 1,556,312. In 1878, the results of the famine showed themselves by a still further reduction of the births to 348,346, and by the still high number of 810,921 deaths. In 1879, the births recovered to 476,307, still below the average, and the deaths diminished to 548,158. These figures are only approximate, but they serve to show how long the results of famine are to be traced in the vital statistics of a people.

Decrease of birth-rate, 1877-78.

With regard to the deaths caused by the famine, and the diseases connected with it, the Famine Commissioners thus report: 'It has been estimated, and in our opinion on substantial grounds, that the mortality which occurred in the Provinces under British administration during the period of famine and drought extending over the years 1877 and 1878 amounted, on a population of 197 millions, to $5\frac{1}{4}$ millions in excess of the deaths that would have occurred had the seasons been ordinarily healthy; and the statistical returns have made certain what has long been suspected, that starvation and distress greatly check the fecundity of the population. It is probable that from this cause the number of births during the same period has been lessened by 2 millions; the total reduction of the population would thus amount to about 7 millions. Assuming the ordinary death-roll, taken at the rate of 35 per *mille*, on 190 millions of people, the abnormal mortality of the famine period may be regarded as having increased the total death-rate by about 40 per cent.'

Total deaths from famine of 1876-78.

But when estimated over a period of years, the effect of famine as a check upon the population is small. The Famine Commissioners calculate that, taking the famines of the past thirty years, as to which alone an estimate of any value can be made, the abnormal deaths caused by famine and its diseases have been less than 2 per *mille* of the Indian population per annum. As a matter of fact, cultivation quickly extended after the famine of 1877-78, and there were in Bombay and Madras 120,000 more acres under tillage after the long protracted scarcity than before it.

Famine a weak check on population.

The famine of 1876-78 affected, directly, a population of $58\frac{1}{3}$ million persons, and an area of 257,300 square miles. The average number daily employed by the State on relief works was 877,024. The average number of persons daily in receipt of gratuitous State relief was 446,641, besides private charities. Land revenue was remitted to close on 2 millions sterling. The famine lasted from 12 months in the North-Western

Famine of 1876-78 summarized.

Provinces, to 22 months in Madras. Its total cost, including both outlay and loss of revenue, is officially returned at £11,194,320.[1] A Commission was appointed to inquire into the causes of famine in India, and the means of averting or alleviating those calamities. Its report, presented to both Houses of Parliament in 1880, is replete with carefully collated facts regarding the past, and with wise suggestions for the future.

Internal communications.

THE MEANS OF COMMUNICATION in India may be classified under four headings—(1) railways, (2) roads, (3) rivers, and (4) canals.

Indian railways.

Their history, 1843-71.

The existing system of railway communication in India dates from the administration of Lord Dalhousie, who brought to bear upon this question an experience gained at the Board of Trade when railway speculation in England was at its height. The first Indian line of rail was projected in 1843 by Sir Macdonald Stephenson, who was afterwards active in forming the East Indian Railway Company. But this scheme was blighted by the financial panic that followed soon afterwards in England. Bombay, the city which has most benefited by railway enterprise, saw the first sod turned in 1850, and the first line of a few miles opened as far as Thána (Tanna) in 1853. The elaborate minute, drawn up by Lord Dalhousie in the latter year, still faithfully represents the railway map of India at the present day, although modified in detail by Lord Mayo's reform of 1869. Lord Dalhousie's scheme consisted of well-chosen trunk lines, traversing the length and breadth of the peninsula, and connecting all the great cities and military cantonments. These trunk lines were to be constructed by private companies, to whom Government should guarantee a minimum of 5 per cent. interest on their capital expended, and from whom it should demand in return a certain measure of subordination. The system thus sketched out was promptly carried into execution, and by 1871 Bombay was put into direct railway communication with the sister Presidencies of Calcutta and Madras. The task Lord Mayo had to undertake was the development of traffic by means of feeders, which should tap the districts of production, and thus open up the entire country. This task he initiated by the construction of minor State lines on a narrower gauge, and therefore at a cheaper rate, than the existing guaranteed railways.

Lord Dalhousie's trunk lines, 1853.

Lord Mayo's branch lines, 1870.

[1] *Report of the Indian Famine Commission*, part 1, p. 24 (1880).

Accordingly, the railways of India are divided into two classes, each of which serves a special purpose. On the one hand, we have the railways constructed by guaranteed companies, for the most part between 1855 and 1875, which follow the main lines of natural communication, and satisfy the first necessities of national life, both commercial and political. On the other hand, there are a body of branch State lines, individually of secondary importance, all begun within the last ten years, and destined to yield fruit only in the future. The guaranteed lines, including the East Indian, which was transferred to Government in 1879, in accordance with terms applicable to all alike, comprise the following:—(1) The East Indian, running up the valley of the Ganges from Calcutta (Howrah) as far as Delhi, with a branch to Jabalpur. (2) The Great Indian Peninsula, which starts from Bombay, and sends one arm north-east to Jabalpur, with a branch to Nágpur, and another south-east to the frontier of Madras. (3) The Madras line, with its terminus similarly at Madras city, and two arms running respectively to the Great Indian Peninsula junction at Ráichur and to Beypur on the opposite coast, with branches to Bangalore and Bellary. (4) The Oudh and Rohilkhand, connecting Lucknow and Moradábád with Cawnpore and Benares. (5) The Bombay, Baroda, and Central India, which runs due north from Bombay through the fertile plain of Guzerat, which is destined ultimately to be extended across Rájputána to Delhi. (6) The Sind, Punjab, and Delhi, consisting of three sections, one in Lower Sind, another from Delhi to Lahore, and the third from Lahore to Múltán. (7) The South Indian (the only guaranteed line on the narrow gauge), in the extreme south, from Cape Comorin to Madras city. (8) The Eastern Bengal, traversing the richest portion of the Gangetic delta. The State lines are too numerous to be described singly. They include the extension from Lahore to Peshávar on the north-west frontier, which at present (1879) stops short at Jhelum; the 'missing link,' from Múltán to Haidarábád, thus bringing the Punjab into direct connection with its natural seaport at Karáchi (opened throughout in 1878); the line up the valley of the Irawadi from Rangoon to Prome; and many short lines which have been constructed entirely at the expense of Native States.

Two classes of Indian lines. *'Guaranteed' railways.* *The eight great lines.* *The State railways.*

The following are the railway statistics of India for the year 1878:—Total length of lines open for traffic, 8215 miles, of which 6044 miles belong to guaranteed railways, and 2171 miles to State railways; total capital expended, £115,059,434,

Railway statistics, 1878.

being £95,430,863 on the former, and £19,628,591 on the latter class; number of passengers conveyed, 38,519,792; total number of tons of goods and minerals, 8,171,617; number of live-stock, 594,249; gross receipts, £10,404,753; gross expenses, £5,206,938; net earnings, £5,197,815, of which only £195,787 is credited to the State railways; percentage of gross expenses to gross receipts, 50·04, varying from 34·97 in the case of the East Indian main line to an average of 78·27 for all the State lines. These figures show 1 mile of railway to every 109 square miles of area, as compared with the area of British India, or to about each 180 square miles, as compared with the area of the entire peninsula. The average cost of construction per mile is almost exactly £14,000. The guaranteed railways, embracing the great trunk lines throughout India, are on the 'broad gauge' of 5 feet 6 inches; the State lines follow, as a rule, the narrow or metre gauge of 3·281 feet. On 31st March 1879, the total length opened was 8545 miles; and the capital invested, 120 millions sterling.

Roads.

As the railway system of India approaches its completion, the relative importance of the roads naturally diminishes. From a military point of view, rapid communication by rail has now superseded the old marching routes as completely as in any European country. Like Portsmouth in England, Bombay in India has become the national harbour for the embarkation and disembarkation of troops. On landing at Bombay, all troops proceed, after a rest, to the healthy station of Deolálí on the plateau of the Deccan, whence they can reach their ultimate destinations, however remote, by easy railway stages. The Grand Trunk Road, running up the entire valley of the Ganges from Calcutta to the north-west frontier, first planned out in the 16th century by the Afghán Emperor Sher Sháh, and brought to completion under the administration of Lord William Bentinck, is now for the most part untrodden by troops. The monument, erected to commemorate the opening of the Bhor Ghát to wheeled traffic from Bombay, remains unvisited by all but the most curious travellers. Railways have bridged the widest rivers and the most formidable swamps. They have scaled, with their aerial zigzags, the barrier range of the Gháts; and they have been carried on massive embankments over the shifting soil of the Gangetic delta.

Old military routes.

The 'Grand Trunk Road.'

Bombay inland route.

But although the railway system now occupies the first place,

both for military and commercial purposes, the actual importance of roads has increased rather than diminished. They do not figure in the imperial balance-sheet, nor do they strike the popular imagination; but their construction and repair constitute one of the most important duties of the District official. A few lines, such as the continuation of the Grand Trunk Road in the Punjab, are still substitutes for the railways of the future. Others, which climb the passes of the Himálayas, the Western Gháts, or the Nílgiris, will probably never be superseded. The great majority, however, are works of subordinate utility, serving to promote that regularity of local communication upon which the progress of civilisation so largely depends. The substitution of the post-cart for the naked runner, and of wheeled traffic for the pack-bullock, is one of the silent revolutions effected by British rule.

Extension of roads.

The more important roads are all carefully metalled, the material almost everywhere employed being *kankar* or calcareous limestone. In Lower Bengal and other deltaic tracts, where no kind of stone exists, bricks are roughly burnt, and then broken up to supply metal for the roads. The minor streams are crossed by permanent bridges, with foundations of stone, and not unfrequently iron girders. The larger rivers have temporary bridges of boats thrown across them during the dry season, which give place to ferries in time of flood. Avenues of trees along the roads afford shade, and material for timber. The main lines are under the charge of the Public Works Department. The maintenance of the minor roads has, by a recent administrative reform, been thrown entirely upon the shoulders of the local authorities, who depend for their pecuniary resources upon District committees, and are often compelled to act as their own engineers. No statistics are available to show the total mileage of roads in British India, or the total sum expended on their maintenance.

Road metal.

Bridges of boats.

Inland navigation is almost confined to the four great rivers, the Ganges, the Brahmaputra, the Indus, and the Irawadi. These flow through broad valleys, and from time immemorial have been the chief means of conveying the produce of the interior to the sea. South of the Gangetic basin, there is not a single river which can be called navigable. Most of the streams in that tract, although mighty torrents in the rainy season, dwindle away to mere threads of water and stagnant pools during the rest of the year. The Godávari and the Narbada, whose volume of water is ample, are both obstructed

Rivers.

The Godávari works.

by rocky rapids, which engineering skill has hitherto been unable to overcome. A total sum of 1½ million sterling has been in vain expended upon the former river. Indeed, it may be doubted whether water carriage is able to compete, as regards the more valuable staples, with communication by rail.

The Ganges.

The Brahmaputra.

After the East Indian Railway was opened, steamers ceased to ply upon the Ganges; and the steam flotilla on the Indus similarly shrunk to insignificance when through communication by rail became possible between Múltán and Karáchi. On the Brahmaputra and its tributary the Barák, and on the Irawadi, steamers still run secure from competition. But it is in the Gangetic delta that river navigation attains its highest development. There the population may be regarded as half amphibious. Every village can be reached by water in the rainy season, and every family keeps its boat. The main channels of the Ganges and Brahmaputra, and their larger tributaries, are navigable throughout the year. During the rainy months, road carriage is altogether superseded. All the minor streams are swollen by the rainfall on the hills and the local downpour; while fleets of boats sail down with the produce that has accumulated in warehouses on the river banks. The statistics of this subject belong rather to the department of internal trade,[1] but it may be mentioned here that the number of laden boats registered in Bengal in the year 1877-78 was 401,729. Boat-racing forms a favourite native sport in the deltaic and eastern Districts. It is conducted with great spirit and rivalry by the villagers. In some places, the day concludes with an illuminated boat procession by torchlight.

Minor streams.

The Nadiyá rivers.

The great majority of the Bengal rivers require no attention from Government, but the network known as the three Nadiyá rivers is only kept open for traffic by close supervision. These three rivers, the Bhágirathi, Jalangí, and Mátábhángá, are all offshoots of the Ganges, which unite to make up the head-waters of the Húglí.[2] In former times, the main volume of the Ganges was carried to the sea by one or other of these channels. But they now receive so little water as only to be navigable in the rainy season, and then with difficulty. Since the beginning of the present century, Government has undertaken the task of preventing these Húglí head-waters from further deterioration. A staff of engineers is constantly employed to

[1] See *post*, pp. 567-572.

[2] See article HUGLI RIVER, *Imperial Gazetteer*, vol. iv. pp. 106, 107; and in greater detail in my *Statistical Account of Bengal*, vol. ii. pp. 19-32.

watch the shifting bed, to assist the scouring action of the current, and to advertise the trading community of the depth of water from time to time. In the year 1877-78, a total sum of £9522 was expended on this account, while an income of £32,494 was derived from tolls.

The artificial water channels of India may be divided into two classes. (1) Those confined to navigation; (2) those constructed primarily for purposes of irrigation. Of the former class, the most important examples are to be found in the south of the peninsula. On both the Malabar and the Coromandel coasts, the strip of low land lying between the mountains and the sea, affords natural facilities for the construction of an inland canal running parallel to the shore. In Malabar, the salt-water lagoons or lakes, which form so prominent a feature in the local geography, merely required to be supplemented by a few cuttings to supply continuous water communication from the port of Calicut to Cape Comorin. On the east coast, the Buckingham Canal, running north from Madras city as far as the delta of the Kistna, has recently been completed without any great engineering difficulties. In Bengal, there are a few artificial canals, of old date, but of no great magnitude, in the neighbourhood of Calcutta. The principal of these form the system known as the Calcutta and Eastern Canals, which consist for the most part of natural channels artificially deepened, in order to afford a safe boat route through the Sundarbans. Up to the close of the year 1877-78, a capital of £360,332 had been expended by Government on the Calcutta canals, and the gross income in that year was £44,120; after deducting cost of repairs, etc., charged to revenue account, and interest at the rate of 4½ per cent., a net profit was left amounting to £8748. The Hijili Tidal Canal in Midnapur District, which cuts off a difficult corner of the Húglí river, yielded a net revenue of £3171 in the same year.

Navigable canals.

Malabar back-waters.

Buckingham Canal.

Calcutta canals.

Hijili Canal.

Most of the great irrigation works, both in Northern and Southern India, have been so constructed as to be available also for navigation. The general features of these works have been already described. So far as regards Bengal, navigation on the Orissa Canals in 1877-78 yielded £3384, on the Midnapur Canal £10,692, and on the Son Canals £5965, the aggregate being larger than was derived from irrigation. In Madras, boat tolls in the Godávari delta brought in £4496, and in the Kistna delta £1718. The works of the Madras

Navigation on Bengal canals;

On Madras canals.

Future projects.

Irrigation Company on the Tungabhadra were not made available for navigation until 1879. A scheme is now under the consideration of the Bengal Government for joining the Midnapur and Orissa Canal systems, and extending the line of water communication farther southward through the Chilká Lake as far as Ganjám, 400 miles from Calcutta.

Trade of India.

COMMERCE AND TRADE.—From the earliest days, India was a trading country. The quick genius of her inhabitants, even more than her natural wealth and an extensive seaboard, distinguished her from other Asiatic lands. In contrast with the Arabian peninsula on the west, with the Malayan peninsula on the east, or with the equally fertile empire of China, India has always maintained an active intercourse with Europe. Her name has passed into poetry as synonymous with costly merchandise. Philology proves that the precious cargoes of Solomon's merchant ships came from the coast of Malabar. The brilliant mediæval republics of Italy drew no small share of their wealth from their Indian trade. It was the hope of participating in this trade, that stimulated Columbus to the discovery of America, and Da Gama to the circumnavigation of the Cape. Spices, drugs, dyes, and rare woods, fabrics of silk and cotton, jewels and gold and silver,—these were the temptations which allured the first adventurers from Europe. The East and the West were then separated by a twelvemonth's voyage, full of hardships and perils. A successful venture made the fortune of all concerned, but trade was a lottery, and not far removed from piracy. Gradually, as the native kingdoms fell, by internal anarchy rather than by violence from without, and the proud cities of mediæval India sank into ruin, the legendary wealth of India was found to rest upon an unstable basis. It has been reserved for our own day to discover, by the touchstone of free trade, the real source of her natural riches, and to substitute bales of raw produce for boxes of curiosities. The cotton, grain, oil-seeds, and jute of India now support a large industrial population in England.

Ancient. Mediæval. Modern.

The modern function of trade in India.

Before entering on statistics of any sort, it is well to clearly apprehend the function which commerce has now to perform in India. The people have in some Provinces outgrown the food-producing powers of the soil; in many others, they are pressing heavily upon these powers. Agriculture, once their sole industry, no longer suffices for their support. New

industries have become a necessity for their well-being. Commerce and manufactures have therefore obtained an economical importance which they never had before in India; for they represent the means of finding employment and food for the rapidly increasing population. I shall therefore first give a popular sketch of the social aspects of Indian trade, before arranging in more logical sequence the facts and figures connected with its history and development.

New industries necessary.

A large external trade was an impossibility under the Mughal Emperors. Their capitals of Northern India, Agra and Delhi, lay more than a thousand miles from the river's mouth. But even the capitals of the seaboard Provinces were chosen for military purposes, and with small regard to the commercial capabilities of their situation. Thus, in Lower Bengal, the Muhammadans under different dynasties fixed in succession on six towns as their capital. Each of these successive capitals was on a river bank; but not one of them possessed any foreign trade, nor indeed could have been approached by an old East Indiaman. They were simply the court and camp of the king or the viceroy for the time being. Colonies of skilful artisans settled round the palaces of the nobles to supply the luxurious fabrics of oriental life. After the prince and court had in some new caprice abandoned the city, the artisans remained, and a little settlement of weavers was often the sole surviving proof that the decaying town had once been a capital city. The exquisite muslins of Dacca and the soft silks of Murshidábád still bear witness to the days when these two places were successively the capital of Bengal. The artisans worked in their own houses. The manufactures of India were essentially domestic industries, conducted by special castes, each member of which wove at his own hereditary loom, and in his own village or homestead.

Large sea-borne trade impossible under Mughals.

Their capitals merely royal camps.

One of the earliest results of British rule in India was the growth of great mercantile towns. Our rule derived its origin from our commerce, and from the first, the East India Company's efforts were directed to creating centres for maritime trade. Other European nations, the Portuguese, the Dutch, the Danes, and the French, have rivalled us as merchants and conquerors in India, and each of them in turn attempted to found great seaports. The long Indian coast, both on the east and the west, is dotted with decaying villages which were once the busy scenes of those nations' early European trade. Of all their famous capitals in India, not one has now the commercial importance of Cardiff or Greenock, and not one

Growth of trading cities under British rule.

of them has a harbour which would admit at low tide a ship drawing 20 feet. The truth is, that it is far easier to pitch a camp and erect a palace, which, under the native dynasties, was synonymous with founding a capital, than it is to create a centre of trade. Such centres must grow of themselves, and cannot be called suddenly into existence by the fiat of the wisest autocrat. It is in this difficult enterprise, in which the Portuguese, the Dutch, the Danes, and the French had successively failed, that the British in India have succeeded.

The English as city-builders.

We make our appearance in the long list of races who have ruled that splendid empire, not as temple-builders like the Hindus, nor as palace and tomb builders like the Musalmáns, nor as fort-builders like the Marhattás, nor as church-builders like the Portuguese; but in the more commonplace capacity of town-builders, as a nation that had the talent for selecting sites on which great commercial cities would grow up, and who have in this way created a new industrial life for the Indian people.

Calcutta and Bombay, the two commercial capitals of India, are the slow products of British rule. Formerly, the industries of India were essentially domestic manufactures, each man working at his hereditary occupation, at his own loom or at his own forge. Under British rule, a new era of production has arisen in India—an era of production on a great scale, based upon the co-operation of capital and labour, in place of the small household manufactures of ancient times. To us, who have from our youth grown up in the midst of a keen commercial civilisation, it is not easy to realize the change thus implied. The great industrial cities of British India are the type of this change. Under native rule, the country had reached what political economists of Mill's school called 'the stationary stage' of civilisation. The husbandmen simply raised the food grains necessary to feed them from one harvest to another. If the food crops failed in any district, the local population had no capital and no other crops wherewith to buy food from other districts; so, in the natural and inevitable course of things, they perished. Now the peasants of India raise other and far more profitable crops than the mere foodstuffs on which they live. They also raise an annual surplus of grain for exportation, which is available for India's own wants in time of need; and there is a much larger aggregate of capital in the country, that is to say, a much greater national reserve or staying power. The so-called 'stationary stage' in India has disappeared, and the Indian

A new era of production,

based on co-operation and capital.

peasant is keenly alive to each new demand which the market of the world may make upon the industrial capabilities of his country; as the history of his trade in cotton, jute, wheat, and oil-seeds proves.

Summary of Indian exports, 1700-1880.

At the beginning of the last century, before the English became the ruling power in India, the country did not produce £1,000,000 a year of staples for exportation. During the first three-quarters of a century of our rule, the exports slowly rose to about £10,000,000 in 1834. During the half century since that date, the old inland duties and other remaining restrictions on Indian trade have been abolished. Exports have multiplied by sixfold. In 1880, India sold to foreign nations £66,000,000 worth of strictly Indian produce, which the Indian husbandman had raised, and for which he was paid. In that year the total trade of India, including exports and imports, exceeded £122,000,000.

India's balance of trade.

India has more to sell to the world than she requires to buy from it. During the five years ending 1879, the staples which she exported exceeded by an annual average of over £21,000,000 the merchandise which she imported.[1] One-third of this balance she receives in cash; and during the five years, she accumulated silver and gold, exclusive of re-exports, at the rate of £7,000,000 per annum. With another third she pays interest at low rates for the capital with which she has constructed the material framework of her industrial life,—her railways (£120,000,000), irrigation works, cotton mills, coal-mines, indigo factories, tea-gardens, docks, steam-navigation lines, and debt. For that capital she goes into the cheapest market in the world, London; and she remits the interest, not in cash, but in her own staples, which that capital has enabled her to produce and to bring to the seaboard. With the remaining third of her surplus exports, she pays the home charges of the Government to which she owes the peace and security that alone have rendered possible her industrial development. The home charges include not only the salaries of the supervising staff in England, and the pensions of the whole military and civil services, who have given their life's work to India, but the munitions of war, a section of the army, including the cost of its recruitment and transport, all stores for public works, and the whole *materiel* of a civilised admini-

What she does with the balance.

[1] This calculation allows a liberal deduction for trans-shipments, and re-exports of foreign goods. The total 'merchandise' exported averaged £63,000,000; the total 'merchandise' imported averaged £38,000,000. See Table, *post*, p. 549.

stration. That *materiel* can be bought more cheaply in England than in India, and India's expenditure on good government is as essential an item for her industrial development, and repays her as high a profit, as the interest which she pays in England for the capital with which she has constructed her dockyards and railways. To sum up, India sells over £21,000,000 a year more of her own staples to foreign nations than the merchandise which she buys for herself from them. She takes payment of one-third of the balance, or say £7,000,000, in good government, and so secures that protection to person and property which she never had before, and which alone have rendered her industrial development possible. With another third, or £7,000,000, she pays for the capital with which she has constructed the material framework of that development—pays for it at the lowest interest, and pays for it, not in cash, but in her own products. The remaining £7,000,000 she receives in gold and silver, and puts them in her purse.

India's yearly savings.

Divisions of Indian trade.

The trade of India may be considered under four heads—(1) sea-borne trade with foreign countries; (2) coasting trade; (3) frontier trade, chiefly across the northern mountains; (4) internal traffic within the limits of the Empire.

Sea-borne trade.

The sea-borne trade most powerfully attracts the imagination, and we have regarding it the most trustworthy statistics. With an extensive seaboard, India has comparatively few ports. Calcutta monopolizes the commerce, not only of Lower Bengal, but of the entire river-systems of the Ganges and the Brahmaputra. Bombay is the sole outlet for the products of Western India, Guzerat, the Deccan, and the Central Provinces; Karáchi (Kurrachee) performs a similar office for the valley of the Indus, and Rangoon for that of the Irawadi.

The four great ports.

These four ports have been chosen as the termini where the main lines of railway debouch on the sea. In the south of India alone is the sea-borne trade distributed along the coast. The western side has a succession of fair-weather ports, from Goa to Cochin. On the east, there is not a single safe harbour, nor a navigable river-mouth, but ships anchor some miles off the shore at Madras, and at several other points, generally near the mouths of the rivers. Of the total foreign trade of India, Calcutta and Bombay control about 40 per cent. each. Madras has 6 per cent., Rangoon 4 per cent., and Karáchi 2 per cent., leaving a balance of only 8 per cent. for all the remaining ports of the country. Calcutta and Bombay form the two central

Petty southern ports.

depôts for collection and distribution, to a degree without a parallel in other countries. The growth of their prosperity is identical with the development of Indian commerce. The two centres.

When the Portuguese, the pioneers of Eastern adventure, discovered the over-sea route to India, they were attracted to the Malabar coast, where they found wealthy cities already engaged in active commerce with Persia, Arabia, and the opposite shore of Africa. From Malabar they brought back pepper and other spices, and the cotton calicoes which took their name from Calicut. Fixing their headquarters at Goa, they advanced northwards to Surat, the ancient port not only for Guzerat but for all Upper India, and westwards into the remote seas which are dotted with the Spice Islands. But with the Portuguese the trading instinct was subordinate to the spirit of proselytism and the ambition of territorial aggrandizement. The Dutch superseded them as traders, and organized a colonial system upon the basis of monopoly and forced labour, which has continued to the present day. Last of all came the English, planting factories at various points along the coast-line, and content to live under the shadow of the native powers. Wars with the Portuguese, with the Dutch, and with the French, first taught the English their own strength; and as the Mughal Empire fell to pieces, they were compelled to become rulers in order to protect their commercial settlements. Our Indian Empire has grown out of trade, but, meanwhile, our Indian trade has grown even faster than our empire.[1]

Early Portuguese trade, 1500-1600.

Dutch monopoly, 1600.

English factories, 1625.

'The Governor and Company of Merchants of London trading to the East Indies' was incorporated by Royal Charter on 31st December 1600, having been directly called into existence by the grievance of monopoly prices placed upon pepper by the Dutch.[2] The first voyage was undertaken in 1601 by five ships, whose cargoes consisted of £28,742 in bullion and £6860 in goods, the latter being chiefly cloth, lead, tin, cutlery, glass, quicksilver, and Muscovy hides. Their destination was 'Atcheen in the Far East' (Sumatra); their first factory was established at Bantam in Java, in 1603. The return cargoes, partly captured from the Portuguese, comprised raw silk, fine calicoes, indigo, cloves, and mace. The earliest factories on the mainland of India were founded at Masulipatam in 1610, and Surat in 1612-15. In 1619, ten ships

English trade, 1600-1700.

[1] For the history of the early European settlements in India, see *ante*, pp. 368-383.

[2] For a fuller account, see *ante*, pp. 375-382.

were despatched to the East by the Company, with £62,490 in precious metals and £28,508 in goods; the proceeds, brought back in a single ship, were sold for £108,887. The English made no great advance in trade during the 17th century. By the massacre of Amboyna (1623) the Dutch drove us out of the Spice Islands, and the period of great establishments (*aurangs*) for weaving had not yet commenced in India.

Our trade advances, 1700-64.

Early in the 18th century, our affairs improved. During the twenty years ending 1728, the average annual exports from England of the East India Company were £442,350 of bullion and £92,288 of goods. The average imports were valued at £758,042, chiefly consisting of calicoes and other woven goods, raw silk, diamonds, tea, porcelain, pepper, drugs, and saltpetre. In 1772, the annual sales at the India House reached the total value of 3 millions sterling; the shipping owned by the Company was 61,860 tons. From 1760 onwards, the Custom House returns of trade with the East Indies are given in Macpherson's *History of Commerce*. But they are deceptive for comparative purposes, as they include the trade of China as well as of India. In 1834, when the Company's trade with China as well as with India ceased, the total exports from India were valued at £9,674,000, and the imports at £2,576,000. Shortly after that date, trade was freed from many vexatious restrictions. Inland duties were abolished—in Bengal in 1836, in Bombay in 1838, and in Madras in 1844; the sugar duties in 1836, and the cotton duties in 1847; the navigation laws were repealed in 1848. The effect of these reforms, and the general progress of Indian commerce, may be seen in the table on the next page, which exhibits the foreign trade of the country and its chief items, in millions sterling, for each of the eight quinquennial periods between 1840 and 1879.

Statistics for 1834.

Inland duties abolished, 1836-48.

Before, however, entering on the items of Indian trade, I ought to explain the method which I have adopted in dealing with them. Many of them may be regarded as agricultural productions, as manufactures or native industries, and as articles of export or internal trade. In such cases I have deemed it best to deal with them in each of these aspects, even at the cost of repeating myself. Thus cotton is treated of alike in the agricultural section, and in the trading and manufacturing sections. In so doing I have not shrunk from repetitions which might be convenient to those who wish to consult the individual sections, without the necessity of reading the whole book.

Foreign Trade of India for Forty Years, classified according to Quinquennial Periods in Millions Sterling.

Periods.	Imports.			Exports.			
	Cotton Manufactures.	Total Merchandise.	Treasure.	Raw Cotton.	Total Merchandise.	Treasure.	Balance of Trade including Treasure.
1840-44.	3·19	7·69	2·74	2·34	14·62	0·48	+ 4·17
1845-49.	3·75	9·14	3·07	1·68	17·00	1·32	+ 4·79
1850-54.	5·15	11·06	4·79	3·14	20·10	1·00	+ 4·17
1855-59.	6·94	15·58	11·27	3·11	25·85	0·92	− 1·00
1860-64.	10·92	23·97	17·07	15·56	43·17	1·02	+ 2·11
1865-69.	15·74	31·70	17·62	25·98	57·66	1·80	+ 8·35
1870-74.	17·56	33·04	8·56	17·41	57·84	1·59	+16·55
1875-79.	19·29	38·36	9·81	11·52	63·13	2·81	+14·91
Average in millions sterling.	10·27	21·82	9·34	10·09	36·04	1·37	+ 6·75

Steadiness of its growth.

The preceding table shows a rapid and steady growth, which only finds its parallel in the United Kingdom. The exceptional imports of silver from 1855 to 1859 were required to pay for the Mutiny; those from 1859 to 1864 represent the price of the cotton sent to Manchester during the American war.

Indian trade statistics for 1878.

Before examining in detail the history of some of the chief staples of trade, it may be convenient to give in this place the statistics of a single year, 1877-78, which was a year of inflation, despite the incidence of famine in Southern India. In 1877-78, the total sea-borne trade exceeded 126 millions sterling in value. The transactions on behalf of Government, such as stores, equipments, and munitions of war, show an import of £2,138,182, and an export of £36,615. The imports of merchandise were £39,326,003, and of treasure £17,355,460; total imports, £56,681,463. The exports of merchandise were £65,185,713, and of treasure £2,155,136; total exports, £67,340,849. These figures exhibit an excess of exports over imports amounting to £10,659,386; and an excess of treasure imported to the amount of £15,200,324. By far the larger share of the total trade, amounting to 61 per cent., is conducted with the United Kingdom; next comes China, with 13 per cent.; and then the following countries in order:—France, Straits Settlements, Ceylon, Italy, United States, Mauritius, Austria, Persia, Arabia, Turkey, Egypt, Australia, Aden, East Coast of Africa. The total number of vessels that entered and cleared was 12,537, with an aggregate of 5,754,379 tons, or an average of 459 tons each. Of the

Excess of exports.

India's chief customers.

Indian shipping.

total tonnage, 76 per cent. was British, 7 per cent. British Indian, and 15 per cent. foreign; American, Italian, and French being best represented in the latter class.

Trade in 1880.

In 1880, the total sea-borne trade exceeded 122 millions sterling. The imports included 41 millions of merchandise, $11\frac{3}{4}$ millions of treasure; total imports, $52\frac{3}{4}$ millions sterling. The exports consisted of $67\frac{1}{4}$ millions of merchandise, and 2 millions of treasure; total exports, $69\frac{1}{4}$ millions sterling. Surplus of exports above imports, $16\frac{1}{2}$ millions sterling.

The following tables give the principal items, together with the totals, of import and export for 1877-78, showing the quantities wherever possible, as well as the values. I shall then examine in detail some of the chief articles of import and export; although in so doing I shall have to travel over ground already entered on, in the agricultural sections of this article.

FOREIGN TRADE OF BRITISH INDIA FOR 1877-78.

IMPORTS.		Quantities.		Value.	
Apparel, ...		...	...	...	£557,597
Coal and Coke, . . .	tons	...	601,159	...	1,007,932
Cotton Twist and Yarn,	lbs.	...	36,194,125	£2,850,403	
Cotton Piece-Goods—					
Grey, ...	yds.	...	992,537,579	11,562,853	
White, ...	,,	...	215,624,360	2,936,109	
Coloured, . . .	,,	...	150,548,713	2,454,103	
Other sorts, . . .	,,	...	...	369,248	
Total Cotton Goods, .		...	...		20,172,716
Hardware and Cutlery, .		...	...	...	448,228
Liquors—					
Ale, Beer, and Porter,	gals.	1,328,077		£313,070	
Spirits, ...	,,	737,714		647,661	
Wines and Liqueurs,	,,	496,733		436,020	
Other sorts, . . .	,,	14,160		4,808	
Total Liquors, .	,,		2,576,684		1,401,559
Machinery, etc., . . .		...	...	...	850,997
Metals—					
Copper, ...	cwts.	320,103		£1,498,175	
Iron, ...	,,	2,437,721		1,435,561	
Other sorts, . . .	,,	330,789		671,728	
Total Metals, .	,,		3,088,613		3,605,464
Provisions, ...		...	...	...	858,797
Railway Plant, ...		...	...	...	907,002
Salt, ...	tons	...	254,231	...	401,365
Silk, raw, ...	lbs.	...	2,102,930	...	678,069
Silk, manufactured, .	yds.	...	8,328,716	...	804,883
Spices, ...	lbs.	...	33,123,137	...	488,884
Sugar, ...	cwts.	...	475,105	...	798,036
Woollen Goods, . .	yds.	...	7,069,693	...	772,781
Miscellaneous, ...		...	...	...	5,571,693
Total Merchandise, .		...	...	£39,326,003	
Treasure, . . .		...	...	17,355,460	
Government Stores, .		...	...	2,138,182	
GRAND TOTAL, .		...	...	£58,829,645	

FOREIGN TRADE OF BRITISH INDIA FOR 1877-78.

EXPORTS.					
		Quantities.		Value.	
Coffee,	lbs.	...	33,300,624	...	£1,338,499
Cotton, raw,	"	...	387,416,624	...	9,383,534
Cotton Piece-Goods,	yds.	...	17,546,591	...	442,286
Cotton Twist,	lbs.	...	15,600,291	...	682,058
Indigo,	cwts.	...	120,605	...	3,494,334
Other Dyes,	"	...	735,838	...	406,660
Grain—					
Rice,	"	18,428,386		£6,950,276	
Wheat,	"	6,340,150		2,856,990	
Other grains,	"	879,806		326,834	
Total Grain,	"		25,648,342		10,134,100
Hides and Skins,	No.	...	22,916,317	...	3,756,887
Jute, raw,	cwts.	...	5,450,276	...	3,518,114
Jute, manufactured,		...	...	...	771,127
Lac (except lac dye),	cwts.	...	95,075	...	333,039
Oils,		...	...	...	371,552
Opium,	chests	...	92,820	...	12,374,355
Saltpetre,	cwts.	...	389,002	...	379,002
Seeds—					
Linseed,	"	7,198,918		£4,224,429	
Rape,	"	3,193,488		1,918,438	
Gingelly or *Til*,	"	1,158,802		848,226	
Other sorts,	"	635,812		369,191	
Total Seeds,	"		12,187,020		7,360,284
Silk, raw,	lbs.	...	1,512,819	...	703,549
Silk, manufactured,	yds.	...	1,535,458	...	151,080
Spices,	lbs.	...	13,805,035	...	226,515
Sugar,	cwts.	...	844,125	...	745,851
Tea,	lbs.	...	33,459,075	...	3,044,571
Timber,	tons	...	56,939	...	406,652
Tobacco,	lbs.	...	11,102,233	...	93,037
Wool, raw,	lbs.	...	23,075,323	...	943,645
Woollen Manufactures,		...	...	...	207,873
Miscellaneous,		...	...	...	1,874,929
Total Indian Produce, etc.,		...	...	£63,143,533	
Foreign Merchandise,		...	...	2,042,180	
Treasure,		...	...	2,155,136	
Government Stores,		...	...	36,615	
GRAND TOTAL,		...	...	£67,377,464	

IMPORTS.—As regards the imports, the first thing to notice is the enormous predominance of two items—cotton goods and treasure. During the last forty years, cotton goods form 33 per cent., or exactly one-third of the total, and treasure an additional 30 per cent. Next in order come metals (copper, which is largely used by native smiths, slightly exceeding iron); Government stores, including munitions of war, boots, liquor, and clothing for soldiers, and railway plant;

Analysis of Indian imports.

liquors, entirely for European consumption; coal, for the use of the railways and mills; railway plant for the guaranteed companies; provisions, machinery, and mill-work, and manufactured silk. It will thus be seen that, with the single exception of Manchester goods, no articles of European manufacture are in demand for native consumption, but only for the needs of our civilised administration; and no raw materials, except copper, iron, and salt.

History of cotton-goods trade: Man-chester, 1641; Cotton introduced 1676.

England's export trade to India thus mainly depends upon piece-goods. In the beginning of the 17th century, the industry had not been introduced into England. The small British demand for cotton-goods or calicoes was met by circuitous importations from India itself, where cotton-weaving is an immemorial industry. In 1641, 'Manchester cottons,' in imitation of Indian calicoes and chintzes, were still made of wool. Cotton is said to have been first manufactured in England in 1676. To foster the nascent industry, a succession of statutes were passed prohibiting the wear of imported cottons; nor was it until after the inventions of Arkwright and others, and the application of steam as a motive power, had secured to Manchester the advantage of cheap production, that these protective measures were entirely removed. In the present century, Lancashire has rapidly bettered her instructors.

Cotton-goods imports, 1840-78.

During the five years 1840-45, the annual import of cotton manufactures into India averaged a little over £3,000,000 sterling. In each subsequent quinquennial period, there has been a steady increase, until in the year 1877-78 the import reached the unprecedented total of £20,000,000 sterling, or an increase of more than sixfold in less than forty years.

Imports of treasure.

The importation of treasure is perhaps still more extraordinary, when we bear in mind that it is not consumed in the using, but remains permanently in the country. During the same period of forty years, the net import of treasure, deducting export, has reached the enormous aggregate of 319 millions sterling, or more than £1, 6s. 6d. per head of the 240 million inhabitants of the peninsula. By far the larger portion of this was silver; but the figures for gold, so far as they can be ascertained, are by no means inconsiderable.

Proportion of gold to silver.

During the ten years ending 1875, when the normal value of silver as expressed in gold was but little disturbed, the total net imports of treasure into India amounted to just 99 millions. Of this total, 62½ millions were in silver, and 36½ millions in gold, the latter metal forming more than one-third of the whole. On separating the re-exports from the imports, the

attraction of gold to India appears yet more marked. Of the total imports of gold, only 7 per cent. was re-exported, while for silver the corresponding portion was 19 per cent. Roughly speaking, it may be concluded that India then absorbed annually about 3 millions sterling of gold, and 5 millions of silver; say a total hoard of 7 to 8 millions sterling of the precious metals each year. The depreciation of silver which has since taken place has caused an enormous increase in the import of silver, and a corresponding increase in the export of gold. The figures since 1876 do not show the normal state of things. But even in 1877-78, when the value of silver in terms of gold was at its lowest, although India drew upon its hoards of gold for export to the amount of more than 1 million sterling, she at the same time imported 1½ million, showing a net import of half a million of gold. It has been estimated that the gold circulation of India amounts to about 1,620,000 of gold *mohars* (16s. to 18s. each), as compared with £158,000,000 of silver and £2,960,000 of copper. In addition, 10 million sovereigns are said to be hoarded in India, mainly in the Bombay Presidency, where the stamp of St. George and the Dragon is valued as a religious symbol.

Analysis of Indian exports.

EXPORTS.—Turning to the exports, the changes in relative magnitude demand detailed notice. In 1877-78, raw cotton for the first time for many years falls into the second place, being surpassed by the aggregate total of food grains. Oil-seeds show as a formidable competitor to cotton, jute surpasses indigo, and tea comes close behind; while cotton manufactures are nearly as valuable as coffee. The imports of sugar, in value although not in quantity, exceed the exports; the trade in raw silk is about equally balanced; while spices, once the glory of Eastern trade, were exported to the value of only £226,515, as compared with imports of spices of twice that value (£488,884).

Export of raw cotton.

The export of raw cotton has been subject to excessive variations. At the close of the last century, cotton was sent to England in small quantities, chiefly the produce of the Central Provinces, collected at Mírzápur and shipped at Calcutta; or the produce of Guzerat, despatched from Surat. In 1805, the cotton from Surat was valued at £108,000. In the same year, only 2000 bales of East Indian cotton were imported into Great Britain. But this figure fails to show the average; for by 1810, the corresponding number of bales had risen

Its history, 1805-34.

to 79,000, to sink again to 2000 in 1813, and to rise to 248,000 in 1818. Bombay did not begin to participate in this trade until 1825, but has now acquired the practical monopoly, since the railway has diverted to the west the produce of the Central Provinces. In 1834, when the commerce of India was first thrown open, 33,000,000 lbs. were exported.

Export of raw cotton since 1840. Analyzing the exports of cotton during the forty years since 1840, we find that in the first quinquennial period they averaged $2\frac{1}{3}$ millions sterling in value, and did not rise perceptibly until 1858, when they first touched 4 millions. From that date the increase was steady, even before the American exports were cut off by war in 1861. India then made the most of her opportunity, although the quantity and quality did not keep pace with the enhanced price. The export of raw cotton reached its highest value at $37\frac{1}{2}$ millions sterling in 1865, and its highest quantity at 803,000,000 lbs. in 1866. Thenceforth the decline has been constant, although somewhat irregular; the lowest figures both of quantity and value being those of 1878-79, when the exports amounted to 2,966,569 cwts., valued at £7,914,091. The most recent feature of the trade is the comparatively small amount shipped to the United Kingdom, and the even distribution of the rest among continental ports. In 1877-78, out of a total of nearly $3\frac{1}{2}$ million cwts., less than $1\frac{1}{2}$ million cwts. was consigned to England; of the remainder, France took 611,000 cwts.; Italy, 434,000; Austria, 407,000; China, 209,000; and Germany, 109,000. The export of raw cotton in 1878-79 amounted in value to £7,914,091, and of twist and cotton goods, to £2,581,823. Indian cotton has a short staple, which is ill suited for the finer counts of yarn spun in the Lancashire mills.

Export of jute; Second in importance to cotton as a raw material of British manufacture comes jute. At the time of the London Exhibition of 1851, jute fibre was almost unknown, while attention was even then actively drawn to rhea or China grass, which remains to the present day unmanageable by any cheap process. From time immemorial, jute has been grown in the swamps of Eastern Bengal, and has been woven into coarse fabrics for bags and even clothing. As early as 1795, Dr. Roxburgh called attention to the commercial value of the plant, which he grew in the Botanical Gardens of Calcutta, and named 'jute,' after the language of his Orissa gardeners, the Bengalí word

in 1828; being *pát* or *koshta*. In 1828-29, the total exports of jute were only 364 cwts., valued at £62. From that date the trade

in 1848; steadily grew, until in the quinquennial period ending 1847-48

the exports averaged 234,055 cwts. The Crimean war, which cut off the supplies of Russian flax and hemp from the Forfarshire weavers, made the reputation of jute. Dundee forthwith adopted the new fibre as her speciality, and the Bengal cultivators as readily set themselves to meet the demand. Taking quinquennial periods, the export of jute rose from an average of 969,724 cwts. in 1858-63 to 2,628,100 cwts. in 1863-68, and 4,858,162 cwts. in 1868-73. The highest figures reached were in the year 1872-73, with 7,080,912 cwts., valued at £4,330,759. There has since been a falling off, partly owing to the competition of the weaving-mills in the neighbourhood of Calcutta; but the trade continues on a permanent basis. By far the greater bulk of the exports is consigned to the United Kingdom, and a large proportion direct to Dundee. In 1877-78, out of a total of 5,450,276 cwts., 4,493,483 were sent to the United Kingdom, 845,810 to the United States, and 110,983 to 'other countries,' chiefly France, which has prosperous weaving-mills at Dunquerque. The exports from India are almost monopolized by Calcutta, although Chittagong, which is nearer the producing Districts, is beginning to take a share.

Later history, 1858-78.

The export of grain, as already noticed, reached in 1878 a higher total than that of cotton. The two staple cereals are rice and wheat. Rice is exported from British Burma, from Bengal, and from Madras. The latter Presidency usually despatches about 2½ million cwts. a year, chiefly to its own coolies in Ceylon; but in 1877-78, this trade was almost entirely checked by the famine. In that year, besides supplying the necessities of Madras, Bengal was able to send nearly 6 million cwts. to foreign ports. As compared with Burmese rice, the Bengal exports are chiefly intended for food, whether in Ceylon, the Mauritius, the Straits Settlements, the West Indies, or Europe. From the point of view of the English produce market, rice means only Burmese rice, which is annually exported to the large amount of about 13 million cwts., valued at 3 millions sterling. In the Indian tables, this is all entered as consigned to the United Kingdom; although, as a matter of fact, the rice fleets from Burma only call for orders at Falmouth, and are there diverted to various continental ports. Burmese rice is known in the trade as 'five parts cargo rice,' being but imperfectly husked before shipment, so that it contains about one part in five of paddy or unhusked rice. It has a thick, coarse grain, and is almost entirely utilized either for distillation or for conversion into starch. In

Export of food grains.

Rice.

Burmese rice.

Rice trade in 1878. 1877-78, the exports of rice to the United Kingdom amounted to 10,488,198 cwts., being slightly less than the average,—but about half of this total is known to be re-exported to foreign countries; the direct exports to the Continent were only 68,839 cwts. to Germany, and 20,117 to France. Siam and Cochin China supply the wants of China and the Straits Settlement, but India has a practical monopoly of the European market. In 1878-79, after India had begun to recover from the famine, the total export of rice was 21¼ million tons, valued at 9 millions sterling (£8,978,951). An export duty is levied on rice in India at the rate of 3 *ánnás* per *maund*, or about 6d. per cwt. A similar duty on wheat was repealed in 1873, and that trade has since conspicuously advanced.

Export duty on rice.

Export of wheat. In 1874-75, the export of wheat was about 1 million cwts. Forthwith it increased year by year, until in 1877-78 it exceeded 6⅓ million cwts., valued at nearly 3 millions sterling. In 1878-79, the quantity fell to 1 million cwts., valued at £520,138, owing to the general failure of the harvest in the producing Districts. But as railways open up the country, and the cultivators find a steady market in England, India may, as already mentioned, some day become a rival to America and Russia in the wheat trade of the world. The Punjab is a great wheat-growing tract in India, but hitherto the chief supplies have chiefly come from the North-Western Provinces and Oudh, being collected at Cawnpore and thence despatched by rail to Calcutta. In 1877-78, out of the total of 6,340,150 cwts., Bengal exported 4,546,062 cwts., Bombay 1,159,443, and Sind 607,470. The chief countries of destination were—the United Kingdom, 5,731,349 cwts.; the Mauritius, 154,888; and France, 116,674. It is said that Italy is beginning to utilize the hard, white Indian wheat for making macaroni.

Wheat trade in 1878.

Exports of oil-seeds. Oil-seeds were freed in 1875 from their former export duty of 3 per cent. *ad valorem.* During the ten previous years, the average annual export was only about 4 million cwts.; but the fiscal change, coinciding with an augmented demand in Europe, has since trebled the trade. In 1877-78, the total export amounted to 12,187,020 cwts., valued at more than 7⅓ millions sterling. Of this, Bengal contributed 7,799,220 cwts., and Bombay 3,179,475 cwts. Linseed and rape are consigned mainly to the United Kingdom, while France takes almost the entire quantity of *til* or gingelly. In 1879, the export of oil-seeds fell to 7¼ million cwts., valued at £4,682,512.

In actual amount, although not in relative importance, indigo

holds its own in the face of competition from aniline dyes. The export of 1877-78 amounted to 120,605 cwts., valued at £3,494,334, being the highest figures on record. Of this total, Bengal yielded 99,402 cwts., and Madras 16,899 cwts. In 1878-79, the export of indigo amounted to 105,051 cwts., valued at £2,960,463. The most noticeable feature in this trade is the diminishing proportion sent direct to England, and the wide distribution of the remainder. In 1877-78, only 51,641 cwts. were consigned direct to the United Kingdom, as compared with 72,494 cwts. two years previously; 29,999 cwts., or just one-fourth, to France; 12,417 cwts. to Egypt, and thence probably reshipped to England; 9832 to the United States; 6618 to Austria; 4148 to Persia; and 1392 cwts. to Italy. Of other dyes, the export of safflower has fallen off, being only in demand for a rouge in China and Japan; the export in 1877-78 was 3698 cwts., valued at £14,881. The export of myrobalams, on the other hand, was greatly stimulated by the Russo-Turkish War, which interrupted the supply of valonia and galls from Asia Minor. The quantity rose from 286,350 cwts. in 1875-76 to 537,055 cwts. in 1877-78, valued in the latter year at £230,526. Practically the whole is sent to the United Kingdom. Turmeric, also, exhibits an increase to 146,865 cwts. in 1877-78, valued at £123,766, of which the United Kingdom took about one-half. Lac-dye, like other kinds of lac, shows a depressed trade, the exports in 1877-78 having been 9570 cwts., valued at £29,009.

Margin notes: Exports of indigo; their destination, 1877-78. Safflower. Turmeric. Lac.

No Indian export has made such steady progress as tea, which has multiplied more than fourfold in the space of ten years. In 1867-68, the amount was only 7,811,429 lbs.; by 1872-73, it had reached 17,920,439 lbs.; and in 1878-79, without a single step of retrogression, it had further risen to 34,800,027 lbs., valued at £3,170,118. It is estimated that the crop of 1880, available for export, will be 42,000,000 lbs. Indian tea has now a recognised position in the London market, generally averaging about 4d. per lb. higher in value than Chinese tea; but it has failed to win acceptance in most other countries, excepting Australia. Its growing importance as compared with Chinese tea appears from the following figures. In 1872, the imports of Indian tea into England were to those of Chinese tea as 1 to 9·7; in 1874, as 1 to 7·5; in 1876, as 1 to 5·6; and in 1878, as 1 to 4·7. The exports of coffee from India are stationary, if not declining. The highest amount during the past ten years was 507,296 cwts. in 1871-72, the lowest amount 298,587 cwts. in 1877-78, valued at £1,338,499. In

Margin notes: Exports of tea. Coffee.

1878-79, the export of coffee was 342,268 cwts., valued at £1,548,481.

Export of cotton manufactures.

Of manufactured goods, cotton and jute deserve notice, though by far the greater part of the produce of the Indian mills is consumed locally. The total value of cotton goods exported in 1877-78 was £1,142,732; and in 1879-80, £1,644,125, being an increase of nearly threefold as compared with 1874-75. The exports of twist and yarn, spun in the Bombay mills, increased from 3 million lbs. in 1874-75 to 15½ million lbs. in 1877-78, valued in the latter year at £682,058. The chief places of destination were—China, 13,762,133 lbs.; Aden, 1,181,120 lbs.; and Arabia, 393,371 lbs. The export of twist and yarn in 1878-79 was valued at £937,698. Piece-goods belong to two classes. Coloured goods, woven in hand-looms, are annually exported from Madras to Ceylon and the Straits, to the value of about £230,000, the quantity being about 8 million yards; while in 1877-78, grey goods from the Bombay mills were sent to Aden, Arabia, Zanzibar, and the Mekran coast, amounting to over 10 million yards, and valued at £141,509.

Exports of jute manufactures.

Jute manufactures consist of gunny bags, gunny cloths, and rope and twine, almost entirely the produce of the Calcutta mills. In all of these, the value of the exports is increasing faster than the quantity, having multiplied nearly fourfold in the last five years. In 1877-78, the total export of jute manufactures was valued at £771,127, and in 1879-80 at £1,098,434. Gunny bags, for the packing of wheat, rice, and wool, were exported to the number of more than 26½ millions, valued at £729,669. Of this total, £298,000 (including by far the most valuable bags) was sent to Australia, £162,000 to the Straits, £80,000 to the United States, £77,000 to Egypt, £32,000 to China, and £81,000 to other countries, which comprises a considerable quantity destined for England. In 1878-79, the export of gunny bags had increased to 45⅓ millions. Of gunny cloth in pieces, nearly 3 million yards were exported, almost entirely to the United States; in 1878-79 these exports had increased to upwards of 4½ million yards. Of rope and twine, 4428 cwts. were exported in 1877-78, valued at £5443.

Gunny.

Countries with which India trades.

The following figures, being taken from Indian returns, do not in all cases show the real origin of the imports or the ultimate destination of the exports, but primarily the countries with which India has direct dealings. London still retains its historical pre-eminence as the first Oriental mart in the world,

whither buyers come from the other countries of Europe to satisfy their wants. Germans come here for wool, Frenchmen for jute, and all nations alike for rare dyes, spices, and drugs. The opening of the Suez Canal has restored to the maritime cities of the Mediterranean a share of the eastern business which they once monopolized. But, on the other hand, the advantage of prior possession, the growing use of steamers, and the certainty of being able to obtain a return freight, all tend to favour trade with England, carried in English bottoms. As the result of these conflicting influences, the trade of India with the United Kingdom, while in actual amount it remains pretty constant, shows a relative decrease as compared with the total trade.

Taking merchandise only, the average value of English exports and imports during the two years 1867-69 amounted to slightly more than 58 millions sterling, out of a total of nearly 86 millions, being 66 per cent. Ten years later, the average value of English trade for 1877-79 was also 58 millions, but the total value had risen to 100 millions, and the proportion had therefore fallen to 58 per cent. Next comes China, with an Indian trade of about 15 millions (imports and exports), or 14 per cent. Of this, nearly 12 millions represent opium, the only other articles which China takes from India being raw cotton and cotton twist, and gunny bags. In return, China sends silver, copper, raw silk and silk goods, sugar and tea, the balance of trade being adjusted through England. It is said that Chinese tea is now only consumed in India by natives, or sent across the frontier into Central Asia. The annual quantity imported into India is about 1½ million lbs., and the price is extremely low. The trade with the Straits may be regarded as a branch of the Chinese trade. The exports are valued at about 2¼ millions sterling, of which more than a half consists of opium, the rest being principally made up by rice and gunny bags. The imports are tin, betel-nuts, and pepper and raw silk, valued altogether at little more than one-third of the exports. The trade with Ceylon is merely a form of coasting trade, large quantities of rice being shipped in native craft along the Madras coast to feed the Tamil coolies in that island. The imports are hardly a sixth of the exports in value. With Mauritius, rice is exchanged for sugar to a large amount on both sides.

India's trade with England; with China; with the Straits; with Ceylon;

Of European countries, France and Italy alone deserve notice beside England. In 1877-78, the Indian exports to

India's trade with France;

France reached the large total of nearly 6 millions sterling, consisting chiefly of oil-seeds (rape and gingelly), indigo, cotton, silk, and coffee. The direct imports in the same year were valued at only £451,000, principally apparel and millinery, brandy and wines, and silk goods; but the same articles are also sent in considerable, although unascertained, quantities *viâ* England. The trade with Italy shows a steady increase within the last five years, the exports having risen from £1,100,000 to £1,670,000, or 52 per cent., and the imports from £250,000 to £380,000. The exports are cotton, silk, oil-seeds (sesamum), and hides; the imports—corals, glass beads and false pearls, spirits and wines, and silk goods. The trade with the United States comes next to that with Italy, both aggregating a little over 1,000,000 sterling. The exports are indigo, hides, raw jute, and gunny bags, lac, saltpetre, and linseed; the imports are almost confined to ice and mineral oils. In 1878-79, the import of ice fell off greatly, under competition from local manufacture at Calcutta and Bombay; while the imports of kerosene oil rose to 3 million gallons (chiefly to Burma). In the same year, America sent direct to India nearly 1 million yards of grey cotton goods, taking advantage of the abolition of duty; and a still larger quantity is known to be received through England. The trade of India with Australia (valued altogether at about £800,000) is limited to the export of rice, gunny bags, and castor-oil, and the import of copper and horses. A little coal is sent from Australia, and a little coffee from India. Hitherto Australia has preferred to drink Chinese tea; but a considerable development of trade in this and other Indian products is hoped for, from the Melbourne Exhibition of 1880. Experimental shipments have already been made.

with Italy; with the United States; with Australia.

The following tables summarize the foreign trade of India in 1877-78:—

DISTRIBUTION OF FOREIGN TRADE OF INDIA IN 1877-78
(*excluding treasure*).

	United Kingdom.	France.	Italy.	United States.
	£	£	£	£
Imports,	32,211,303	451,105	349,229	279,717
Exports,	29,298,152	5,963,057	1,867,690	1,930,340
Total,	61,509,455	6,414,162	2,216,919	2,210,057
Percentage of grand total,	49	5	1·8	1·8

	Australia.	China and Hong-Kong.	Straits Settlements.	Ceylon.	Mauritius.
	£	£	£	£	£
Imports, . .	298,298	1,403,673	1,079,702	530,555	642,471
Exports, . .	449,740	12,634,935	2,343,285	2,496,323	1,117,975
Total, . .	748,038	14,038,608	3,422,987	3,026,878	1,760,446
Percentage of grand total, .	0·6	13	3	2·6	1·4

DISTRIBUTION OF PRINCIPAL EXPORTS OF RAW PRODUCE IN 1877-78, IN CWTS.

	Cotton.	Jute.	Rice.	Wheat.	Indigo.
United Kingdom,	1,440,000	4,493,483	10,488,198	5,731,349	51,641
France, . .	611,000	...	20,117	116,674	29,999
Germany, . .	109,000	...	68,839	...	...
Austria, . .	407,000	...	...	...	6,618
Italy, . . .	434,000	...	...	...	1,392
United States, .	...	845,810	...	...	9,832
Egypt, . .	...	...	...	...	12,417
Persia, . .	...	...	126,824	...	4,148
Mauritius, . .	...	...	1,461,931	154,888	...
China, . .	219,000	...	...	...	...
Straits Settlements,	...	...	1,022,431	...	...

The opening of the Suez Canal in 1869, while it has stimulated every department of trade into greater activity, has not materially changed its character. The use of the Canal implies steam power. In 1871-72, the first complete year for which statistics are available, the total number of steamers which sailed *viâ* the Canal was 422, with a tonnage of 464,198. Every subsequent year shows an increase until the great fall in trade in 1878-79. The highest figures reached were in 1877-78, with 1137 steamers and 1,617,839 tons, being 64 per cent. of the total steam tonnage. As might be anticipated, the imports, being for the most part of small bulk and high value, first felt the advantages of this route. In 1875-76, 85 per cent. of the imports from Europe and Egypt (excluding treasure) passed through the Canal, but only 29 per cent. of the exports. In 1878-79, the proportion of imports was substantially the same, while that of exports had risen to 64 per cent., showing that such bulky commodities as cotton, grain, oil-seeds, and jute are now beginning to participate in the advantages of rapid traffic. The actual values of Canal trade in 1877-78, the year of its greatest development, were 29 millions sterling for imports, and 23 millions for exports. The Canal has reduced the length of the voyage from London

Trade *viâ* the Suez Canal.

Growth of the Canal trade.

to Calcutta by about thirty-six days. The route round the Cape was more than 11,000 miles, and occupied nearly three months; that through the canal is less than 8000 miles, and takes from 30 to 45 days.

Balance of trade.

Indian commerce for thirty-six years.

Sir R. Temple, when Finance Minister in 1872, drew up a valuable State Paper, in which he placed in a clear light the various means by which the apparent excess of exports over imports is liquidated. During the thirty-six years between 1835 and 1871, the value of merchandise exported from India amounted to £1,012,000,000, say one thousand millions sterling; the value of merchandise imported into India, to £583,000,000, showing an excess of £429,000,000 in the exports. The value of treasure imported in the same period was £312,000,000, against £37,000,000 exported, being a net import of £275,000,000. Deducting this from the excess of merchandise exports, a balance of £154,000,000 has to be accounted for otherwise than in the ordinary operations of trade. The first item to be considered is freight. Next come all payments made in England, whether by the Indian Government or by private persons resident in India. During the thirty-six years taken, the aggregate amount of payments in England on Government account (now represented by the Secretary of State's bills) amounted to £113,000,000. These bills are drawn to meet charges due in England under such heads as civil and military pensions, interest on debt and on railway capital, military stores, etc.; and they are bought by bankers or merchants, who require to meet their own payments in India. They operate, financially, as if treasure had been sent to India, and thus reduce the apparent balance of trade at one stroke from £154,000,000 to £41,000,000. The remaining item to be considered is the remittances to England on private account, which it is impossible to ascertain with any pretensions to accuracy. In 1872, this item was estimated at 3,500,000 a year; but in former years it had been much less, and it is now probably much more. It includes such divers matters as the savings of officials, profits of trade and planting, interest on capital invested. Together with freightage, it would make up the balance of £41,000,000 yet unaccounted for, and thus finally equalize the trade of India. Elsewhere I have endeavoured to express in a more popular form the balance of trade during the five years ending 1879.

The balance; how accounted for.

Government remittances.

Private remittances.

The phenomena of the trade between India and China are to be explained on the same principles. In 1872-73, the total

exports from India to China were valued at £12,074,347, to which opium alone contributed £10,529,673. The total imports from China were valued at only £1,355,171, showing an excess of £10,719,176 in exports, for which India receives no direct return from China. In this case, China pays her debt to India by the excess of her exports to England, which are there placed to the credit of India. During the twenty years between 1852 and 1871, the aggregate balance of trade in favour of China in her dealings with England amounted to £112,000,000. This amount was available to settle the equally unfavourable balance with India, and was in fact paid by Indian opium, as certainly as if the opium had been sent to China *viâ* England. It is evident, therefore, that if the Chinese were to greatly increase their imports of English goods, the exchanges of India might be seriously affected. Balance from Chinese trade.

Coasting Trade.—The foreign trade of India is monopolized by four great ports,[1] but the entire seaboard along both sides of the peninsula is thronged by native craft, which do a large coasting business. In the Gulfs of Kachchh and Cambay, on the Malabar coast, and in the southern Districts facing Ceylon, a large portion of the inhabitants are born sailors, conspicuous alike for their daring and for their skill in navigation. In 1873-74, which may be regarded as a normal year, the total number of vessels engaged in the coasting trade which cleared and entered was 294,374, with an aggregate of 10,379,862 tons; the total value of both coasting exports and imports was £34,890,445. Of the total number of vessels, 280,913, with 4,843,668 tons, were native craft. Bombay and Madras divided between them nearly all the native craft; while in Bengal and Burma, a large and increasing proportion of the coasting traffic is carried in British steamers. In 1877-78, the year of famine, the number of ships increased to 319,624; the tonnage to 15,732,246 tons; and the value to £67,814,446. By far the largest item was grain, of which a total of 1,137,690 tons, valued at 13 millions sterling, was thrown into the famine-stricken Districts from the seaboard. Next in importance come raw cotton and cotton goods. The trade in raw cotton amounted to 387,438 cwts., valued at £957,900, much of which was merely transhipped from one port to another in the Bombay Presidency. Cotton twist and yarn amounted to 17,425,993 lbs., valued at £965,038, of which the greater part was sent from Bombay to Bengal and Madras. The total

Coasting trade.

Statistics of coast trade and shipping, 1874; in 1878.

Staples of the coast trade, 1878.

[1] See *ante*, p. 546.

value of the cotton piece-goods was £620,866, including about 24 million yards of grey goods sent from Bombay to Bengal and to Sind in nearly equal proportions, and about 2 million yards of coloured goods from Madras. Stimulated by the activity of the grain trade, the exports of gunny bags from Calcutta coastwise rose to a total value of nearly £960,000. The trade in betel-nuts amounted to nearly 44 million lbs., valued at over £500,000. Burma consumes most of these, obtaining its supplies from Bengal; while Bombay gets considerable quantities from Madras, from the Konkan and Goa, and from Bengal. Sugar (refined and unrefined) figures to the large amount of £900,000, of which the greater part came from Bengal. The movements of treasure coastwise show a total of just 5 millions sterling, being exceptionally augmented by the conveyance of silver to Burma in payment for rice supplied to Madras.

Frontier trade.

Frontier Trade.—Attempts have been made to register the trade which crosses the long land frontier of India on the north, stretching from Baluchistán to Independent Burma. The returns obtained show a total of about 7¾ millions sterling, of which nearly half belongs to Burma; the imports being about 4¼ millions, and the exports 3½ millions. The figures are, I regret, not based upon trustworthy evidence, but it is interesting to examine some of the details.

Three main trade routes to Afghánistán.

Three main trade routes pierce the Suláimán Mountains, which form the western frontier of the Punjab and Sind. These are—(1) the Bolán Pass, which collects the trade both of Kandahár and Khelát, and debouches upon Sind at the important mart of Shikárpur, whose merchants have direct dealings with the remote cities of Central Asia; (2) the Gomal Pass, leading from Ghazní to Derá Ismáil Khán, which is followed by the half-military, half-trading clan of Povindahs, who bring their own caravans of camels into the heart of India; (3) the Khaibar Pass, from Kábul to Pesháwar. The aggregate value of the annual trade with Afghánistán cannot be less than 1 million sterling each way, or a total of 2 millions. But for Sind no statistics are available, and those for the Punjab are evidently incomplete. So far as they go, they show that in 1875-76 the total imports from Kábul were valued at £914,000, consisting chiefly of raw silk, dried fruits and nuts, *manjít* or madder and other dyes, *charas* (an intoxicating preparation of hemp) and other drugs, wood, and furs; the total exports were valued at £816,000, chiefly cotton goods both of native and European manufacture, Indian tea, indigo, and salt.

The Punjab also conducts a considerable business *viâ* Kashmír with Yarkand, Kashgar, and Chinese Tibet, estimated at about 1 million sterling altogether. The chief marts on the side of India are Amritsar and Jalandhar, from which latter place the route runs northwards past Kángra and Pálampur to Leh, where a British official has been stationed since 1867, in which year also a fair was established at Palampur to attract the Yarkandí merchants. Merchandise is usually conveyed across the Himálayan passes on the backs of sheep and yaks; but British enterprise has successfully taken mules as far as Leh. In 1875-76, the total imports from Kashmír were valued at £484,000, chiefly *pashmina* or shawl-wool, *charas*, raw silk, gold-dust and silver ingots, and borax; the exports were valued at £342,000, chiefly cotton goods, food grains, metals, salt, tea, and indigo. Farther east, the Independent State of Nepál cuts off direct intercourse with Tibet for a total length of nearly 700 miles, bordering the North-Western Provinces, Oudh, and Behar. Though but little trade is allowed to filter through to Tibet, a very large traffic is everywhere carried on along the frontier between the Nepálís and British subjects. The Nepál Government levies transit duties impartially on all commodities; but it is asserted that their fiscal tariff is not intended to be protective, and does not in fact operate as such.

Trade with Central Asia.

Himálayan traffic;

with Tibet.

Markets are held at countless villages along the boundary, for the exchange of rural produce and articles of daily consumption; and many cart tracks cross the line from our side, to lose themselves in the Nepál *tarái*. The principal trade route is that which starts from Patná, and proceeds nearly due north through Champáran District to the capital of Khatmandu; but even this is not passable throughout for wheeled traffic. From Khatmandu, two routes branch off over the central range of the Himálayas, which both ultimately come down into the valley of the Tsanpu, or great river of Tibet. In 1877-78, the registered trade with Nepál (which is doubtless under-estimated) amounted to a total of £1,687,000, of which more than two-thirds was conducted by Bengal. The exports from Nepál were valued at £1,054,000, the principal items being food grains and oil-seeds, cattle, timber, and horns. Other articles of export which do not figure prominently in the return are musk, borax, *chireta*, madder, cardamoms, *chauris* or yak-tails, ginger, *balchar* or scented grass, furs, and hawks. The Indian imports into Nepál were valued at £633,000, chiefly European and native piece-goods (of cotton,

Frontier marts.

Nepál trade.

Nepál trade routes.

wool, and silk), salt, metals, raw cotton, sugar and spices. To these may be added the miscellaneous articles which may be usually found in a pedlar's pack. The trade with Sikkim and Bhután is too insignificant to require notice, although it is possible that our future entry into Tibet may lie through these States.

Bhután.

North-east frontier trade.

A certain amount of traffic is conducted with the hill tribes on the north-east frontier, who almost surround the Province of Assam from Bhután to Manipur. According to the returns for 1877-78, the total frontier trade of Assam amounts to under £100,000 a year. It consists chiefly of the bartering of rice, cotton cloth, salt, and metals, for the raw cotton grown by the hill tribes, and for the caoutchouc, lac, bees-wax, and other jungle produce which they collect.

Trade with Independent Burma;

The trade with Independent Burma has a special character, and it has for some years past been subject to a fairly accurate system of registration. The main route is by the Irawadi river, which is navigable by large steamers. The trade on the Tsit-toung (Sittang or Sitoung) is chiefly confined to the export of timber. Registration is also attempted at six land stations. The total trade in 1877-78 was valued at £3,426,000, almost equally divided between exports and imports, being considerably the largest figure yet recorded. The principal exports from Independent Burma were timber (£213,000), raw cotton (£163,000), sesamum oil (£130,000), manufactured silk (£107,000), jaggery sugar (£98,000), cattle (£88,000), and ponies (£20,000), cotton goods woven from European yarn (£46,000), earth-oil (£65,000), and cutch (£41,000). Many of these articles are liable to be declared royal monopolies, and consequently the figures fluctuate greatly year by year. Other exports of interest, though of smaller value, are pickled tea (£19,000) and jade (£18,000). The principal imports are rice (£435,000), cotton piece-goods (£207,000), and cotton twist and yarn (£188,000), manufactured silk (£173,000), *ngá-pi* or salted fish (£159,000), raw silk (£84,000), woollen goods (£43,000), salt (£33,000). Many of these goods, also, are the subjects of royal monopoly, or they compete with the products of manufactories started by the king at Mandalay. Such articles as salt and piece-goods are exempted from the ordinary customs duties at Rangoon, and pay only a transit duty of 1 per cent. if declared for Independent Burma. The trade between British Burma and Siam was estimated in 1877-78, at the total value of £126,000, being £69,000 for exports from Siam, and £57,000 for imports.

in 1878.

Exports.

Imports.

REGISTERED FRONTIER TRADE OF INDIA IN 1877-78.

	Imports.	Exports.	Total.
	£	£	£
Afghánistán and adjoining hill tribes,	671,000	718,000	1,389,000
Kashmír, Ladákh, and Tibet,	630,000	374,000	1,004,000
Nepál,	1,054,000	633,000	1,687,000
North-East Frontier tribes,	77,000	30,000	107,000
Independent Burma,	1,664,000	1,762,000	3,426,000
Siam,	69,000	57,000	126,000
Total,	4,165,000	3,574,000	7,739,000

The Internal Trade of India greatly exceeds her foreign commerce; but it is impossible to estimate its amount. On the one hand, there is the wholesale business, connected with the foreign commerce, in all its stages—the collection of agricultural produce from a hundred thousand villages, its accumulation at a few great central marts, and its despatch to the seaboard; in return for which manufactured articles are distributed by the same channels, but in the reverse direction. On the other hand, there is the interchange of commodities of native growth and manufacture, sometimes between neighbouring Districts, but also between distant Provinces. With unimportant exceptions, free trade is the rule throughout the vast peninsula of India, by land as well as by sea. The Hindus possess a natural genius for commerce, as is shown by the daring with which they have penetrated into the heart of Central Asia, and to the east coast of Africa. Among the benefits which British rule has conferred upon them is the removal of the internal duties and other restraints which native despotism had imposed upon trading energies.

Internal trade of India.

Broadly speaking, the greater part of the internal trade remains in the hands of the natives. Europeans control the shipping business, and have a share in the collection of some of the more valuable staples of exports, such as cotton, jute, oil-seeds, and wheat. But the work of distribution, and the adaptation of the supply to the demand of the consumer, naturally fall to those who are best acquainted with native wants. Even in the Presidency towns, most of the retail shops are owned by natives. The Vaisya, or trading caste of Manu, has now scarcely a separate existence; but its place is occupied by offshoots and well-marked classes. On the western coast the Pársís, by the boldness and extent of their operations, tread close upon the heels of the great English houses.

Internal trade in native hands.

Trading castes:

In the interior of the Bombay Presidency, business is mainly divided between two classes, the Banias of Guzerat and the Márwárís from Rájputána. Each of these profess a peculiar form of religion, the former being Vishnuvites of the Vallabhá-chárya sect, the latter Jains. In the Deccan, their place is taken by Lingáyats from the south, who again follow their own form of Hinduism, which is a species of Siva-worship. Throughout Mysore, and in the north of Madras, Lingáyats are also found, but along the eastern seaboard the predominating classes of traders are the castes named Chetties and Komatis. Many of the trading castes still claim Vaisya descent.

in Southern India;

in Northern India.

In Bengal, however, many of the upper classes of Súdras have devoted themselves to wholesale trade; although here also the Jain Márwárís from Rájputána and the North-West occupy the front rank. Their headquarters are in Murshidábád District, and Jain Márwárís are found throughout the valley of the Brahmaputra, as far up as the unexplored frontier of China. They penetrate everywhere among the wild tribes; and it is said that the natives of the Khásí Hills are the only hillmen who do their own business of buying and selling. In the North-Western Provinces and Oudh, the traders are generically called Banias; and in the Punjab are found the Khatrís (Kshattriyas), who have perhaps the best title of any to regard themselves as descendants of the original Vaisyas.

According to the general Census of 1872, the total number of persons throughout British India returned as connected with commerce and trade was 3,224,000, or 5·2 per cent. of the adult males.

Local trade of India.

The Local Trade of India is conducted in the permanent *bázárs* of the great towns, at weekly markets in the rural villages, at annual gatherings held for religious purposes, or by means of travelling brokers and agents. The cultivator himself, who is the chief producer and also the chief customer, knows little of large cities, and expects the dealer to come to his own door. Each village has at least one resident trader, who usually combines in his own person the functions of money-lender, grain merchant, and cloth-seller. The simple system of rural economy is entirely based upon the dealings of his man, whom it is sometimes the fashion to decry as a usurer, but who is often the one thrifty person among an improvident population. If his rate of interest is high, it is only proportionate to the risks of his business. If he sometimes makes a merciless use of his legal position, the fault

The village money-lender.

rests rather with the inflexible rules of our courts, which enable him to push the cultivators to extremes not allowed under native rule. Abolish the money-lender, and the general body of cultivators would have nothing to depend upon but the harvest of the single year. The money-lender deals chiefly in grain and in specie.

Travelling brokers.

In those Districts where the staples of export are largely grown, the cultivators commonly sell their crops to travelling brokers, who re-sell to larger dealers, and so on until the commodities reach the hands of the agents of the great shipping houses. The wholesale trade thus rests ultimately with a comparatively small number of persons, who have agencies, or rather corresponding firms, at the central marts. Buying and selling, in their aspects most characteristic of India, are to be seen not in the large cities, nor even at the weekly markets, but at the fairs which are held periodically at certain spots in most Districts. Religion is always the original cause of these gatherings or *melás*, at some of which nothing is done beyond bathing in the river, or performing pious ceremonies. But in the majority of cases, religion merely supplies the opportunity for secular business. Crowds of petty traders attend, bringing the medley of articles which can be packed into a pedlar's wallet; and the neighbouring villagers look forward to the occasion, to satisfy alike their curiosity and their household wants.

Religious fairs.

Increase of internal trade.

The improvement in means of communication, by the construction of railways and metalled roads, has directly developed internal no less than foreign trade. Facilities for rapid carriage tend to equalize prices not only over large areas of country, but also over long periods of time. As wheeled carts supersede pack-bullocks, and as railroads supersede carts, the whole of India will gradually become one country for the purposes of food supply. It is by this means alone that a guarantee can be provided against the ravages of famine. The vicissitudes of a tropical climate will always cause local failures of the harvest, whether by drought or by flood, which science indeed may learn to foresee, but which no practicable schemes of irrigation or embankment can altogether avert. But India as a whole has never yet been unable in any single year to yield sufficient food for her population. The real problem of famine is a problem of distribution.

The chief safeguard against famine.

How trade acts in famine.

In former times, the inhabitants of one District might be perishing of starvation, while plenty was reigning in a District but 100 miles distant. In 1866, the people of Orissa were decimated, not by drought or by inundation, but by the

impossibility of transport. In 1877, the distress in Madras was alleviated by the importation of nearly 1 million tons of grain, all of which was carried inland by two lines of rail in twelve months. Supplies were drawn, not only from the seaboard of Bengal and Burma, but from the most remote Provinces. In the year 1877-78, the Central Provinces exported grain to the amount of more than 300,000 tons, and the Punjab to the amount of 400,000 tons, all of which was conveyed south by rail. Trade has never known such a stimulus as was afforded on this occasion, when the carrying power proved barely equal to the strain. If the famine had happened before the opening of the railway, it would have resulted in a loss of life without parallel even in the annals of India.

Normal action of internal trade,

But the utility of local trade is not to be judged of only at such a crisis. In normal seasons, it tends alike to regulate prices and to promote a higher standard of comfort. Within the last twenty years, the cultivators have learnt for the first time the real value of their produce. In the old days, little was grown beyond grain, crops for the year's food. The slightest failure meant local distress; while a bumper harvest so depreciated the value of grain, that part of the crops was often left unreaped to rot in the fields. In 1780 and 1781, a suspension of revenue had to be granted to the District of Sylhet, because the harvest was so bountiful that it would not pay the cost of carriage to market, and consequently the farmers had no means of obtaining money. Even so late as 1873, the Collector of Rangpur reported that 'the yield of rice was considered too good by the *ráyats*, as prices were thereby kept down.' The extended cultivation of staples for export, such as cotton, jute, and oil-seeds, together with the substitution of more valuable crops for the inferior grains, is now in course of modifying the entire system of Indian agriculture. Land is not being withdrawn from food crops to any appreciable extent, but the *ráyat* is everywhere learning to cultivate high-priced subsidiary crops which will help to pay his rent.

equalizes prices;

introduces more valuable crops.

Statistics of internal trade.

It is impossible to express in figures the precise extent of the internal trade of India. But the following statistics will serve in some measure to show both its recent development and its actual amount. They are based upon the registration returns which have been collected for some years past in certain Provinces. In 1863-64, the total external trade of the Central Provinces, both export and import, was estimated to amount to 102,000 tons, valued at £3,909,000. By 1868-69,

Central Provinces.

after the opening of the Jabalpur railway, it had increased to 209,000 tons, valued at £6,795,000. In 1877-78, the year of the famine in Southern India, the corresponding figures were 635,000 tons, and £9,373,000, showing an increase in 14 years of more than sixfold in quantity, and considerably more than twofold in value. The comparatively small increase in value is partly to be attributed to the exclusion of opium, which merely passes through in transit from Málwá. In 1874-75, the total external trade of the Punjab amounted to about 600,000 tons, valued (but probably overvalued) at about £16,000,000. In 1877-78, it had increased to nearly 900,000 tons, valued at £17,500,000. The total trade of Behar in 1877-78 was valued at £16,000,000. But perhaps the significance of such enormous totals will become plainer if we take the case of a single mart, Patná, which may claim to be considered one of the most important centres of inland traffic in the world. Favourably situated on the Ganges, near the confluence of the Son and the Gogra, where the principal trade route branches off to Nepál, it has become a great changing station for the transfer of goods from river to rail.

Punjab.

Behar.

Trade of Patná, 1877.

In 1876-77, the imports and exports of Patná town (excluding the Government monopoly of opium, and probably omitting a good deal besides) were actually registered to a value of 7¼ millions sterling. Many articles are included twice over as exported and imported, but the imports alone amounted to more than 4 millions. Among the principal items on one side or the other may be mentioned—European piece-goods, £1,217,000; indigo, £789,000; oil-seeds, £557,000; salt, £389,000; sugar, £274,000; food grains, £258,000; hides, £185,000; saltpetre, £156,000. A still more characteristic example of local trade is afforded by the case of Dongargáon, as described in the *Report on the Trade and Resources of the Central Provinces for* 1877-78,—a model of what such a report should be. Dongargáon now forms the principal market for grain on the fertile plateau of Chhatísgarh, which is perhaps destined to become a regular source of wheat supply to England. Twenty years ago, it was a petty hamlet of about 20 houses, buried in wild jungle, and only distinguished from the neighbouring villages by a weekly *bázár* held on Sunday. In 1862, the enterprising agent of a Nágpur firm of native merchants settled here, and began to make purchases of grain. The number of houses has now risen to about 2000, of which the majority are tiled. In the busy season, the total concourse

Growth of a mart, Dongargáon.

of persons daily present in the *bázár* is estimated at 100,000, with 13,000 carts and 40,000 bullocks and buffaloes. Buyers come from as far west as Bombay, while the grain of all the adjoining Districts is brought here for sale.

A yearly fair, Kárágolá.

A third example of the varying methods of Indian trade may be found in the annual fair held at Kárágolá in Purniah. This fair dates from the beginning of the present century, although its site has changed from time to time. It lasts for about ten days in the month of February. During that season a little town of shops, constructed of bamboos and matting, rises on the sandy plain that stretches between the village and the bank of the Ganges. The business is entirely of a retail character, the local staples of grain, jute, and tobacco being conspicuously absent. But every article of necessity or luxury for a native household is to be seen. Cloth of all kinds, from thick English woollens to fine Dacca muslins; ironmongery and furniture from Monghyr; boots, shawls, silks, and brocades from the cities of the North-West; hand-mills, curry-stones, and lac ornaments from the hills of Chutiá Nágpur; knives, yaks' tails, ponies, musk, and other drugs, brought down by the Nepálís; miscellaneous ware from England, such as umbrellas, matches, soap, paper, candles, buttons, etc.,—all find a ready sale. In 1876, the attendance was estimated at 40,000 persons; and the fees upon shops levied by the landowner realized £150. Such fairs are always protected by a special body of police, and the European official in charge of the District or Subdivision is usually present.

Manufactures of India.

MANUFACTURES.—India may be truly described as an agricultural rather than a manufacturing country, yet it must not be inferred that she is destitute of the arts of civilised life. She has no swarming hives of industry to compare with the factory centres of Lancashire; nor a large mining population, living under the soil rather than on it. In short, she has not reached that modern stage of industrial development, which is based upon the use of coal and the discoveries of physical science. But in all manufactures requiring manual dexterity and artistic taste, India may challenge comparison with Europe in the last century; in many of them, with England at the present day. The organization of Hindu society demands that the necessary arts, such as those of the weaver, the potter, and the smith, shall be practised in every village. The pride and display of the rival kingdoms, into which the country was formerly divided,

gave birth to many arts of luxury that have not yet been entirely forgotten in the decayed capitals. When the first European traders reached the coast of India in the 16th century, they found a civilisation both among 'Moors' and 'Gentoos' at least as highly advanced as their own. In architecture, in fabrics of cotton and silk, in goldsmith's work and jewellery, the people of India were then unsurpassed. But while the East has stood still, as regards manufactures on a great scale, the West has advanced by gigantic strides without a parallel in the history of human progress. On the one hand, the downfall of the native courts deprived the skilled workman of his chief market; while on the other, the English capitalist has enlisted in his service forces of nature against which the village artisans in vain try to compete. The fortunes of India are now bound up with those of England—a country whose manufactures depend upon a great export trade. The tide of circumstances, more inexorable than artificial enactments, has compelled the Indian weaver to exchange his loom for the plough, and has crushed many of the minor handicrafts. Political economy, judging only by the single test of cheapness, may approve the result; but the philosopher will regret the increasing uniformity of social conditions, and the loss to the world of artistic industries which can never be restored.

Art work.

English competition.

Some consolation can be found in the establishment, within the past few years, of mills fitted out by English capital with English machinery. A living portion of our own industrial activity has been transplanted to Indian soil. Manchester is growing up in miniature at Bombay, and Dundee at Calcutta. The time may yet come when India shall again clothe her people with her own cotton; she already supplies sacks from her jute for the commerce of the world. When European capital and native labour have once learned to work hand in hand, other industries, now undreamed of, may spring up.

The tide now turned.

Historically the most interesting, and still the most important in the aggregate, of all Indian industries are the simple crafts, conducted in every rural hamlet. The Hindu village system is based upon division of labour, quite as much as upon hereditary caste. The weaver, the potter, the blacksmith, the brazier, the oil-presser, are integral members of a community, as well as inheritors of a family occupation. On the one hand, they have a secure market for their wares; and on the other, their employers have a guarantee that their trades shall be well learned. Simplicity of life and permanence of employment are here happily combined with a high degree of excellence in

Native industries.

The village craftsmen.

design and honesty of execution. The stage of civilisation below these village industries is represented by the hill tribes, especially those on the north-east frontier, where the weaving of clothes is done by the women of the family, a practice which also prevails throughout Burma. An advanced stage may be found in those villages or towns which possess a little colony of weavers or braziers noted for some speciality. Yet one degree higher is the case of certain arts of luxury, such as ivory-carving or the making of gold lace, which chance or royal patronage has fixed at some capital now perhaps falling into decay. One other form of native industry owes its origin to European interference. Many a village in Lower Bengal and on the Coromandel coast, still shows traces of the time when the East India Company and its continental rivals gathered large settlements of weavers round their little forts, and thus formed the only industrial towns that ever existed in India. But when the Company gave up its private trade in 1813 and 1834, such centres of industry rapidly declined; and the once celebrated muslins of India have been driven out of the market of the world by Manchester goods.

Fortified weaving settlements.

Cotton-weaving in India,

Cotton-weaving is a very ancient industry of India. In England it dates back only a couple of centuries, wool and linen having been our own historical staples; but in India it has been practised from the time of the *Mahábhárata*. The Greek name for cotton fabrics, *sindon*, is etymologically the same as that of India, or Sind; while in later days, Calicut on the Malabar coast has given us 'calico.' Cotton cloth has always been the single material of Indian clothing for both men and women, except in Assam and Burma, where silk is preferred, perhaps as a survival of an extinct trade with China. The author of the *Periplus*, our earliest authority on the trade of India, enumerates a great variety of cotton fabrics among her exports. Marco Polo, the first Christian traveller, dwells upon the 'cotton and buckram' of Cambay. When European adventurers found out the way to India, cotton and silk always formed part of the rich cargoes they brought home. The English, in especial, appear to have been careful to fix their earliest settlements amid a weaving population—at Surat, at Calicut, at Masulipatam, at Húglí. In delicacy of texture, in purity and fastness of colour, in grace of design, Indian cottons may still hold their own against the world. But in the matter of cheapness, they have been unable to face the competition of Manchester. Many circumstances conspired to injure the local industry. In the last century, England excluded Indian cotton

an indigenous industry.

Causes of its decline.

fabrics, not by fiscal duties, but by absolute prohibition.[1] A change of fashion in the West Indies, on the abolition of slavery, took away the best customer left. Then came the cheapness of production in Lancashire mills, due to improvements in machinery. Lastly, the high price of raw cotton during the American War, however beneficial to the cultivators, fairly broke down the local weaving trade in the cotton-growing tracts. Above all, the necessity under which England lies to export something to India to pay for her multifarious imports, has permanently given an artificial character of inflation to this branch of business.

Still a domestic industry.

Despite all these considerations, hand-loom weaving still holds its own with varying success in different parts of the country. Regarded as a trade, it has become unremunerative. Little is made for export, and the finer fabrics generally are dying out. The far-famed muslins of Dacca and of Arní are now well-nigh lost specialities. But as a village industry, weaving is still carried on everywhere, though it cannot be said to flourish. If Manchester piece-goods are cheaper, native piece-goods are universally recognised as more durable. Comparative statistics are, of course, impossible; but it may be roughly estimated that about three-fifths of the cotton cloth used is woven in the country from native thread or from imported twist.

Supplies three-fifths of Indian consumpt.

Cotton-weaving in Madras, 1870;

In 1870, the Madras Board of Revenue published a valuable report on hand-loom weaving, from which the following figures are taken. The total number of looms at work in that Presidency, with its population of 31 millions, was returned at 279,220, of which 220,015 were in villages and 59,205 in towns, showing a considerable increase upon the corresponding number in 1861, when the *mohartarfa*, or assessed tax upon looms, was abolished. The total estimated consumption of twist was 31,422,712 lbs., being at the rate of 112 lbs. per loom. Of this amount, about one-third was imported twist, and the remainder country-made. The total value of the cotton goods woven was returned at 3½ millions sterling, or £12, 10s. per loom; but this was believed to be much under the truth. The export of country-made cloth in the same year was about £220,000. In the Central Provinces, where hand-loom weaving is still fairly maintained, and where the statistics are more trustworthy than in other parts of India, the total number of looms is returned at 87,588, employing 145,896 weavers, with an annual out-turn valued at £828,000. In 1878-79, the export of Indian piece-goods from the Central

in Central Provinces, 1878;

[1] See *ante*.

in Bengal; Provinces was valued at £162,642. As regards Bengal, hand-loom weaving is generally on the decline. The average consumption of piece-goods throughout the Province is estimated at about 5s. per head, and the returns of registered trade show that European piece-goods are distributed from Calcutta at the rate of about 2s. 5d. per head. In Midnapur, Nadiyá, and Bardwán, the native weavers still hold their own, as appears from the large imports of European twist; but in the eastern Districts, which have to balance their large exports of jute, rice, and oil-seeds, the imports of European cloth rise to the high figure of 2s. 7d. per head. No part of India has more cruelly felt the English competition than Bombay, where, however, the introduction of steam machinery is beginning to restore the balance. Twist from the Bombay mills is now generally used by the hand-loom weavers of the Presidency, and is largely exported to China. But it is in the finer fabrics produced for export that the Bombay Districts have suffered most. Taking Surat alone, the export by sea of piece-goods at the beginning of the century was valued at £360,000 a year. By 1845, the value had dropped to £67,000, rising again to £134,000 in 1859; but in 1874, it was only £4188.

in Bombay.

Special Indian fabrics.

Dacca muslins.

It is impossible to enumerate all the many special fabrics which are still produced in various parts of the country. First among these are the far-famed muslins of Dacca, which can still be obtained to order, although the quality is far inferior to what it was when Dacca was the capital of a luxurious Muhammadan court. Most of the weavers are Hindus, and the high development which their industry has reached may be judged from the fact that they employ no fewer than 126 distinct implements. The finest muslins are woven plain, but patterns of coloured silk are afterwards embroidered on them by a separate class of workmen. (For the decay of the Dacca manufactures, and the transfer of the weaving communities to agricultural employments, see article DACCA.) Fine muslin is woven in small quantities at Sarail in the adjoining District of Tipperah; and Sántipur, in Nadiyá, still retains its reputation for delicate fabrics. But with these exceptions, cotton-weaving in Bengal produces only coarse articles for common use. In Madras, the fine fabrics maintain their ground at more places, although at none is the trade flourishing. Among those deserving mention are the muslins of Arní, the cloth woven by the Nairs on the Malabar coast, the chintzes of Masulipatam, the *panjam* or '120-thread' cloth of Vizagapatam, and the blue *salampurs* of Nellore. At Bangalore, the descendants of the

Madras muslins.

old court weavers still manufacture a peculiar kind of cloth, printed in red and black with mythological designs. In the Bombay Presidency, Ahmedábád, Surat, and Broach are the chief centres of the manufacture of printed *sárís*, for which Guzerat is celebrated; while Poona, Yeola, Násik, and Dhárwár produce the fabrics dyed in the thread, which are much worn by the Marhattá races. Silk is often combined with cotton on the looms, and the more expensive articles are finished off with a border of silk or gold lace. Chanda and Hoshangábád are the largest weaving towns in the Central Provinces.

Bangalore cloths.

Bombay fabrics.

Silk-weaving is also a common industry everywhere, silk fabrics, or at least an admixture of silk in cotton, being universally affected as a mark of wealth. Throughout British Burma, and also in Assam, silk is the common material of clothing; usually woven by the women of the household. In Burma, the bulk of the silk is imported from China, generally in a raw state; but in Assam it is obtained from two or three varieties of worms, which are generally fed on jungle trees, and may be regarded as semi-domesticated.[1] Bengal is the only part of India where sericulture, or the rearing of the silk-worm proper on mulberry, can be said to flourish.[2] The greater part of the silk is wound in European filatures, and exported in the raw state to Europe. The native supply is either locally consumed, or sent up the Ganges to the great cities of the North-West. A considerable quantity of raw silk, especially for Bombay consumption, is imported from China. *Tasar* silk, or that obtained from the cocoons of semi-domesticated worms, does not contribute much to the supply.[3]

Indian silk-weaving:

in Burma and Assam;

in Bengal.

As compared with cotton-weaving, the silk fabrics form a town rather than a village industry. These fabrics are of two kinds—(1) those composed of pure silk, and (2) those with a cotton warp crossed by a woof of silk. Both kinds are often embroidered with gold and silver. The mixed fabrics are known as *mashru* or *sufi*, the latter word meaning 'permitted,' because the strict ceremonial law will not allow Muhammadans to wear clothing of pure silk. They are largely woven in the towns of the Punjab and Sind, at Agra, at Haidarábád in the Deccan, and at Tanjore and Trichinopoli. Pure silk fabrics are either of simple texture, or highly ornamented in the form of *kinkhabs* or brocades. The latter are a speciality of Benares,

Classes of silk fabrics.

Brocades.

[1] For further details, see *ante*, p. 509.

[2] For a full account of sericulture and the mulberry growth, see *ante*, pp. 508, 509.

[3] See *ante*, p. 509.

Murshidábád, Ahmedábád, and Trichinopoli. Their gorgeous hues and texture may be inferred from the following names:— *Shikargah*, 'hunting-ground;' *chand-tara*, 'moon and stars;' *mazchar*, 'ripples of silver;' *murgala*, 'peacock's neck.' Printed silks are woven at Surat for the wear of Pársí and Guzerati women. Quite recently, mills with steam machinery have been established at Bombay, which weave silk fabrics for the Burmese market, chiefly *lúngyís*, *tamains*, and *patsoes.* The silk manufactures exported from India consist almost entirely of the handkerchiefs known as *bandannas* and *corahs*, with a small proportion of *tasar* fabrics. The trade appears to be on the decline, the total exports having decreased from 2,468,052 yards valued at £238,000 in 1875-76, to 1,481,256 yards valued at £147,000 in 1877-78. But in 1878-79, the value had again risen to £195,897; and the returns for 1874-77 were unusually high.

Steam silk-factories.

Embroidery.

Embroidery has already been referred to in the two preceding paragraphs. The groundwork may be either silk, cotton, wool, or leather. The ornament is woven in the loom, or sewn on afterwards with the needle. The well-known *choga*, which has recently come into popular use in England for dressing-gowns, is made of *patu* or camel's hair, embroidered in Kashmír, the Punjab, and Sind. The still better known and more valuable Kashmír shawl, made either in Kashmír itself or at Ludhiána, and a few other towns of the Punjab, is composed of *pashmina*, or the soft wool of the so-called shawl-goat, which is a native of the Himálayan plateaux. Muslin is embroidered with silk and gold thread at Dacca, Patná, and Delhi. Sind and Cutch (Kachchh) have special embroideries of coloured silk and gold. Leather-work is embroidered in Guzerat. In some of the historical capitals of the Deccan, such as Gulbargah and Aurangábád, velvet (*makhmal*) is gorgeously embroidered with gold, to make canopies, umbrellas, and housings for elephants and horses, for use on State occasions. Not only the goldsmith, but also the jeweller lends his aid to Indian embroidery. A *chadar*, or shawl made by order of a late Gáekwár of Baroda, is thus described by Dr. Birdwood: 'It was composed entirely of inwrought pearls and precious stones, disposed in an arabesque fashion, and is said to have cost a *kror* of rupees (say 1 million sterling). Although the richest stones were worked in it, the effect was most harmonious. When spread out in the sun, it seemed suffused with an iridescent bloom, as grateful to the eye as were the exquisite forms of its arabesques.'

Camel's hair.

Kashmír shawls.

Leather-work.

A jewelled shawl.

Carpets and rugs may be classified into those made of cotton and those made of wool. The former, called *satranjis* and *daris*, are made chiefly in Bengal and Northern India, and appear to be an indigenous industry. They are usually white, striped with blue, red, or chocolate, and sometimes ornamented with squares and diamonds. The woollen or pile carpets, known as *kalin* and *kalicha*, are those which have recently attained so much popularity in England, by reason of the low price at which the out-turn of the jail manufactories can be placed on the market. The pile carpet is indigenous to Persia and Túrkistán, where the best are still made. The art was probably introduced into India by the Muhammadans. 'The foundation for the carpet is a warp of strong cotton or hempen threads; and the peculiarity of the process consists in dexterously twisting short lengths of coloured wool into each of the threads of the warp, so that the two ends of the twist of wool stick out in front. The projecting ends are then clipped to a uniform level, and the lines of work are compacted together by striking them with a blunt instrument' (Birdwood). The historical seats of the industry are in Kashmír, the Punjab, and Sind; and at Agra, Mírzápur, Jabalpur, Warangal in the Deccan, Malabar and Masulipatam. Velvet carpets are also made at Benares and Murshidábád, and silk pile carpets at Tanjore and Salem. At the Exhibition of 1851, the finest Indian rugs came from Warangal, the ancient capital of the Andhra dynasty, about 80 miles east of Haidarábád. Their characteristic feature was the exceedingly numerous count of the stitches, about 12,000 to the square foot. 'They were also perfectly harmonious in colour, and the only examples in which silk was used with an entirely satisfactory effect' (Birdwood). The price was not less than £10 per square yard. The common rugs, produced in enormous quantities from the jails at Lahore, Jabalpur, Mírzápur, Benares, and Bangalore, sell in England at 7s. 6d. each.

Carpets and rugs, of cotton; of wool.

Process of manufacture.

Seats of carpet-weaving.

Gold and silver, and jewels, both from their colour and their intrinsic value, have always been the favourite material of oriental ornament. Even the hill tribes of Central India and the Himálayas show skill in hammering silver into brooches, and armlets, and necklets. Imitation of knotted grass and of leaves seems to be the origin of the simplest and most common form of gold ornament, the early specimens consisting of thick gold wire twisted into bracelets, etc. A second archaic type of decoration is to be found in the chopped gold

Goldsmiths' work and jewellery.

Hill-work.

jewellery of Guzerat. This is made of gold lumps, either solid or hollow, in the form of cubes and octahedrons, strung together on red silk. Of artistic jeweller's work, the best known examples are those from Trichinopoli, Cuttack, and Kashmír. Throughout Southern India, the favourite design is that known as *swámi*, in which the ornamentation consists of figures of Hindu gods in high relief, either beaten out from the surface or fixed on to it by solder or screws. The Trichinopoli work proper, which has been to some extent corrupted to suit English taste, includes also chains of rose gold, and bracelets of the flexible serpent pattern. The silver filigree work of Cuttack, identical in character with that of ancient Greece and of Malta at the present day, is generally done by boys, whose sensitive fingers and keen sight enable them to put the fine silver threads together with the necessary rapidity and accuracy. The goldsmith's work of Kashmír is of the kind known as 'parcel-gilt,' and is further distinguished by the ruddy colour of the gold used. 'Its airy shapes and exquisite tracery, graven through the gilding to the dead white silver below, softening the lustre of the gold to a pearly radiance, give a most charming effect to this refined and graceful work' (Birdwood). The hammered *repoussé* silver work of Cutch (Kachchh), although now entirely naturalized, is said to be of Dutch origin. Similar work is done at Lucknow and Dacca. The goldsmith's art contributes largely to embroidery, as has already been mentioned. Gold and silver thread is made by being drawn out under the application of heat. The operation is performed with such nicety, that 1 rupee's worth of silver will make a thread nearly 800 yards long. Before being used in the loom, this metallic thread is generally twisted with silk. For the manufacture of cloth of gold (*sonári*) or cloth of silver (*rupíri*), the wire is beaten flat, so as to form the warp to a woof of thin silk or cotton. A third kind of metallic ornamentation is practised at Jáipur in Rájputána and Haidarábád in the Deccan, by printing muslins with patterns of gold and silver leaf.

Cube jewellery.

Trichinopoli.

Cuttack.

Kashmír.

Cutch.

Precious stones.

Precious stones are lavishly used by Indian jewellers, who care less for their purity and commercial value than for the general effect produced by a blaze of splendour. 'But nothing can exceed the skill, artistic feeling, and effectiveness with which gems are used in India both in jewellery proper and in the jewelled decoration of arms and jade' (Birdwood). The general character may be learned from the following description of a hair-comb in the Prince of Wales'

collection, made at Jáipur: 'The setting is of emerald and ruby Jáipur enamel on gold, surmounted by a curved row of large pearls, all on a level, each tipped with a green glass bead. Below is a row of small brilliants, set among the elegantly designed green and red enamelled gold leaves which support the pearls. Then a row of small pearls, with an enamelled scroll-work set with brilliants between it and a third row of pearls; below which comes a continuous row of minute brilliants forming the lower edge of the comb, just above the gold prongs.'

Indian iron-work.

The chief duty of the village smith is, of course, to make the agricultural implements for his fellow-villagers. But in many towns in India, chiefly the sites of former capitals, iron-work still retains a high degree of artistic excellence. The manufacture of arms, whether for offence or defence, must always be an honourable industry; and in India it attained a high pitch of excellence, which is not yet forgotten. The magnetic iron-ore, found commonly in the form of sand, yields a charcoal steel which is not surpassed by any in the world. The blade of the Indian *talwár* or sword is sometimes marvellously watered, and engraved with date and name; sometimes sculptured in half-relief with hunting scenes; sometimes shaped along the edge with teeth or knotches like a saw. Matchlocks and other fire-arms are made at several towns in the Punjab and Sind, at Monghyr in Bengal, and at Vizianagram in Madras. Chain armour, fine as lacework, and said to be of Persian derivation, is still manufactured in Kashmír, Rájputána, and Cutch (Kachchh). Ahmednagar in Bombay is famous for its spear-heads. Both fire-arms and swords are often damascened in gold, and covered with precious stones. In fact, the characteristic of Indian arms, as opposed to those of other Oriental countries, is the elaborate goldwork hammered or cut upon them, and the unsparing use of gems. Damascening on iron and steel, known as *kuft*, is chiefly practised in Kashmír, and at Gujrát and Siálkot in the Punjab. The process consists of encrusting gold upon the surface of the harder metal. Damascening in silver, which is chiefly done upon bronze, is known as *bidari* work, from the ruined capital of Bidar in the Nizám's Dominions, where it is still chiefly carried on.

Cutlery.

Chain armour.

Damascened steel.

Brass and copper.

The village brazier, like the village smith, manufactures the necessary vessels for domestic use. Chief among these vessels is the *lotá*, or globular bowl, universally used in ceremonial ablutions. The form of the *lotá*, and even the style of orna-

mentation, has been handed down unaltered from the earliest times. A *lotá* now in the India Museum, which was disinterred from a Buddhist cell in Kullu, and must be at least fifteen centuries old, represents Prince Suddhartha going on a high procession. Benares enjoys the first reputation in India for work in brass and copper, producing not only vessels for domestic and ceremonial use, but also images and religious emblems. In the south of India, Madura and Tanjore have a similar fame; and in the west, Ahmedábád, Poona, and Násik. At Bombay itself, large quantities of imported copper are wrought up by native braziers. The temple bells of India are well known for the depth and purity of their note. In many localities the braziers have a speciality, either for a peculiar alloy or for a particular process of ornamentation. Silver is sometimes mixed with the brass, and in rarer cases gold. *Bidari* work, or the damascening of silver upon bronze, has already been alluded to. In this case, the metal ground is said to be an amalgam of copper, lead, and tin, made black by dipping in a solution of sal-ammoniac, saltpetre, salt and blue vitriol. At Moradábád, in the North-Western Provinces, tin is soldered upon the brass, and incised through in floriated patterns, which are marked by filling in the ground with a black composition of lac. At Purniah in Bengal, a variety of *bidari* ware is made of zinc and copper, damascened with silver, the processes of which are described at length in my *Statistical Account of Bengal.*[1] The brass or rather bell-metal ware of Murshidábád, known as *khágraí*, has more than a local reputation, owing to the large admixture of silver. The demand for enormous quantities of brass-work at the lowest possible price for the London market, is rapidly deteriorating both the designs and the workmanship of the Benares articles. The native braziers are almost compelled to degrade their industry, when they find that the most vulgar patterns, deeply but hastily carved, command a ready sale; while their old faithful work can scarcely find an English customer.

The *lotá*. Temple bells. *Bidari* ware.

Indian pottery.

Next after the loom of the weaver, the potter's wheel is the characteristic emblem of an ancient civilisation. From time immemorial, the potter has formed an essential member of the Hindu village community. Pottery is made in almost every village, from the small vessels required in cooking to the large jars used for storing grain, and occasionally as floats to ferry persons across a swollen stream. But although the industry is universal, it has in few Provinces risen to the

[1] Vol. xv. pp. 355-357.

dignity of a fine art. Perfection has been reached neither in the substance, as in the porcelain of China, nor in the ornamentation, as in ancient Greece. The clay in many places works up well, but the product remains mere earthenware, and rarely receives a high finish. Sind is the chief Province of India where the potter's craft has risen to a high art; and here the industry is said to have been introduced by the Muhammadans. Sind pottery is of two kinds, encaustic tiles and vessels for domestic use. In both cases the colours are the same—turquoise blue, copper green, dark purple or golden brown, under an exquisitely transparent glaze. The usual ornament is a conventional flower pattern, pricked in from paper, and dusted along the pricking. The tiles, which are evidently of the same origin as those of Persia and Turkey, are chiefly to be found in the ruined mosques and tombs of the old Musalmán dynasties; but the industry still survives at the little towns of Saidpur and Bubri. Sind ware is made at Haidarábád, Karáchi, Tatta, and Hála. Good pottery is also manufactured across the border, at Lahore and Múltán in the Punjab. Efforts have been made by the Bombay School of Art[1] to foster this indigenous industry; but, as in other cases of European patronage, the Indian artisan loses his originality when set to copying alien models. Something, however, has been done in the right direction by reproducing the old designs from the old cave temples of Ajanta and Karlí, in the pottery made at the Bombay School of Art. The Madura pottery also deserves mention, from the elegance of its form and the richness of its colour.

Its impe fections.

Sind pottery.

Tiles.

Punjab and Bombay pottery.

Stone sculpture is an art of the highest antiquity in India, as may be seen in the early memorials of Buddhism. Borrowing an impulse from Greek models, the Buddhist sculptors at the commencement of our era freed themselves from the Oriental tradition which demands only the gigantic and the grotesque, and imitated nature with some success. But with the revival of Bráhmanism, Hindu sculpture again degenerated; and so far as the art can still be said to exist, it possesses a religious rather than an æsthetic interest.[2]

Sculptu

In the cities of Guzerat, and in other parts of India where the houses are built of wood, their fronts are ornamented with elaborate carving. Wood-carving in Western India is said,

Wood-carving.

[1] See *ante*, pp. 224, 225; and for Indian Schools of Art, p. 472.

[2] For Indian architecture, painting, and musical instruments, see *ante*, pp. 224, 225.

perhaps erroneously, to owe its origin to Dutch patronage; the models of the carvers are evidently taken from the native Indian temples. The favourite materials are blackwood, sandal-wood, and jack-wood. Blackwood (*Dalbergia latifolia*) is used for those highly decorated objects which have attracted attention in Europe from their excess of elaboration; while jack-wood is made into articles of furniture, more simple and more useful. The supply of sandal-wood comes from the forests of the Western Gháts in Kánara and Mysore, but some of the finest carving is done at Surat and Ahmedábád. From the examples of 17th century Indian carving which I have examined, I believe that the art received a powerful impulse from the Dutch along the Bombay coast. But it existed long before that date, as may be inferred from the patterns and designs, some of which may be seen in the exquisite open carving in marble, or open lattice-work windows in hard stone. The more durable material has survived, and now tells its tale.

Inlaying.

Akin to wood-carving, is the inlaying of the articles known as 'Bombay boxes.' This art is known to be of modern date, having been introduced from Shiraz in Persia towards the close of the last century. It consists of binding together in geometrical patterns, strips of tin-wire, sandal-wood, ebony, ivory, and stag's horn. At Vizagapatam in Madras, similar articles are made of ivory and stag's horn, with scroll-work edged in to suit European taste. At Máinpuri, in the North-Western Provinces, wooden boxes are inlaid with brass wire.

Ivory carving.

The chief seats of ivory-carving are Amritsar, Benares, Murshidábád, and Travancore, where any article can be obtained to order, from a full-sized palanquin to a lady's comb. Human figures in clay, dressed to the life, are principally made at Krishnagar in Bengal, Lucknow, and Poona.

European industries.

The preparation of tea, coffee, and indigo have been already described in connection with agriculture. It remains to give some account of those manufactures proper, conducted by steam machinery, and under European supervision, which have rapidly sprung up in certain parts of India during the past few years. These comprise cotton, jute, and silk, and beer.

Cotton mills, 1854-79.

The first mill for the manufacture of cotton yarn and cloth by machinery worked by steam, was opened at Bombay in 1854. The enterprise has since grown with scarcely a check, until, in 1879, the total number of mills throughout India was

58, with about a million and a half spindles, and twelve thousand looms, giving employment to upwards of 40,000 persons —men, women, and children. Of this total, 30 mills, or more than half, were in the island of Bombay, which now possesses a busy manufacturing quarter with tall chimney-stalks, recalling the aspect of a Lancashire town; 14 were in the cotton-growing Districts of Guzerat, also in the Bombay Presidency; 6 were in Calcutta and its neighbourhood; 3 at Madras; 2 at Cawnpore in the North-Western Provinces; 1 at Nágpur in the Central Provinces; 1 at Indore, the capital of Holkar's Dominions; and 1 at Haidarábád, the residence of the Nizám. Their distribution throughout India.

This rapid and wide-spread development sufficiently proves that the new industry, though still in its infancy, is being carried on under wholesome conditions, and meets a real demand. It is true that a cloud has recently risen at Bombay, caused partly by competition with European goods recklessly thrown upon the market regardless of profit, and partly by that mismanagement to which joint-stock enterprise is peculiarly exposed. But with the return of prosperity to agriculture, and the consequent revival of the home demand for cotton goods, there can be little doubt that the Bombay mills will start upon a career of renewed activity. Their advantages over the English manufacturer are manifest. The crop of raw material and the market for the manufactured article are both at their very doors, thus saving a double freight. Labour is cheap, abundant, docile, and not liable to strike. A certain amount of prejudice exists in favour of their products, partly because of their freedom from adulteration, and partly from the patriotic pride naturally felt for a native industry. Lastly, up to March 1879 they had the slight protection of a moderate customs duty of 5 per cent. *ad valorem* (imposed for fiscal purposes solely) upon imported goods. On the other hand, they labour under not a few countervailing disadvantages. Sound basis of the manufacture. Cheap material. Cheap labour. No adulteration. The drawbacks.

The cost of erection, including spindles and fitting up, is said to be about three times as much in India as in England. Thus a mill containing 50,000 spindles, which in Lancashire might be set up for about £1 per spindle, or a total of £50,000, would cost at Bombay about £150,000. On this capital the initial charge for interest would be only £2500 a year in England, calculated at 5 per cent., as compared with £13,500 in India, at the rate of 9 per cent. Again, the cost of fuel and all stores, which require to be imported from Cost of erection. High interest.

England, tells greatly against the Bombay mills. Another important consideration, which it is difficult to estimate in all its bearings, is the quality of Indian cotton, known as 'short stapled,' which does not admit of being spun into the finer kinds of yarn. Consequently the Indian mills can only turn out the lower 'counts' of yarn, and the coarser fabrics of piece-goods, leaving English imports of the higher classes without competition.

Short staple.

Only coarse qualities made.

Adopting the technical language of the trade, the great bulk of the yarn spun in Indian mills consists of numbers 6, 10, and 20 mule twist. Water twist is spun in smaller quantities, generally of number 16. The maximum of either kind is number 30. The mills are capable of spinning up to 40; but as a matter of fact, they never attempt this number, owing partly to the inferior quality of the cotton, and partly to the carelessness of the work-people. As regards piece-goods, the kinds principally woven in the mills are those known as T cloths, domestics, sheetings, drills, and jeans, made entirely from the yarn spun in the same mills. Long-cloths, *chadars* and *dhutís*, are also manufactured; and recently attempts have been made to turn out drawers, stockings, night-caps, and towelling. But Manchester still possesses a practical monopoly both of the higher 'counts' of yarn which are used by the hand-loom weavers, and of the superior qualities of cloth.

Joint-stock cotton mills.

The Indian mills are almost without exception the property of joint-stock companies, the shares in which are largely taken up by natives. The overlookers are skilled artisans brought from England, but natives are beginning to qualify themselves for the post. The operatives are all paid by the piece; and, as compared with other Indian industries, the rates of wages are high. In 1877, at Bombay, boys earned from 14s. to £1 a month; women, from 16s. to £1; and jobbers, from £3 to £6, 10s. Several members of one family often work together, earning between them as much as £10 a month. The hours of work are from six in the morning to six at night, with an hour allowed in the middle of the day for meals and smoking. A Factory Act, to regulate the hours of work for children and young persons, and to enforce the fencing of dangerous machinery, etc., is under the consideration of the Government.

Bombay wages.

Statistics of Bombay cotton manufactures.

Besides supplying the local demand, these mills are gradually beginning to find a market in foreign countries, especially for their twist and yarn. Between 1872-73 and 1878-79, the export of twist from Bombay increased from 1,802,863 lbs.

valued at £97,162, to 21,271,059 lbs. valued at £883,665, or an increase of nearly twelvefold in quantity and upwards of ninefold in value. Within the same period of eight years, the export of grey piece-goods increased from 4,780,834 yards valued at £75,495, to 14,993,336 yards valued at £198,380. The twist and yarn is mostly sent to China and Japan, the piece-goods to the coast of Arabia and Africa. The figures for the coasting trade also show a corresponding growth, the total value of twist carried from port to port in 1878-79 having been £804,996, and of piece-goods (including hand-loom goods), £654,553. The general character of the business may be inferred from the following returns supplied by the Empress Spinning and Weaving Mills Company at Nágpur, which has 30,000 spindles and 450 looms at work, and employs about 1600 hands. Their consumption of raw cotton has averaged 1,707,000 lbs. a year; their out-turn has averaged 1,040,000 lbs. of yarn valued at £45,358, and 627,700 lbs. of cloth valued at £30,661. Mr. O'Conor, who has devoted much attention to the matter, thus summarizes his opinion regarding the future of the Indian cotton mills in his *Review of Indian Trade for* 1877-78:—'Whether we can hope to secure an export trade or not, it is certain that there is a sufficient outlet in India itself for the manufactures of twice fifty mills; and if the industry is only judiciously managed, the manufactures of our mills must inevitably, in course of time, supersede Manchester goods of the coarser kinds in the Indian market.'

Sent to China and Africa.

Nágpur mills.

Future of the trade.

The Jute mills of Bengal have sprung up in rivalry to Dundee, as Bombay competes with Manchester; but in Bengal the capital is almost entirely supplied by Europeans. The jute mills cluster thick round Calcutta, extending across the river into Húglí District. One has been planted at Sirájganj, far away up the Brahmaputra, in the middle of the jute-producing country. In 1879, the total number of jute mills in India was 21, of which all but 2 were in Bengal; and the number is annually increasing. The weaving of jute into gunny cloth is an indigenous hand-loom industry in Northern Bengal, chiefly in the Districts of Purniah and Dinájpur. The gunny is made by the semi-aboriginal tribe of Koch, Rájbansí or Páli, both for clothing and for bags; and, as with other industries practised by non-Hindu races, the weavers are the women of the family, and not a distinct caste. The mills turn out bags, and also cloth in pieces to a limited extent. The bags vary in size, according to the markets for which they are intended.

Jute mills.

Number in 1879.

Varieties of gunny-bags.

The largest are the twilled wool packs sent to Australia, which measure 56 inches by 26½, and weigh about 10½ lbs. each. The smallest are the Hessian wheat sacks for California, measuring 36 inches by 22, and weighing only 12 ounces. The average weight may be taken to be from 2 to 2½ lbs.

Out-turn of Calcutta jute mills.

The mills in Calcutta and its neighbourhood are estimated to keep about 4000 looms at work; and the total amount of raw jute worked up annually is about 1½ million cwts., which yields about 90 million bags. The activity of the trade, and the general direction of the exports, will be seen from the following figures for 1877-78. In that year 3 million bags were also brought into Calcutta from Pabná District, being the product of the Sirájganj mills. The total exports by sea and land of both power-loom and hand-made bags numbered 80 millions, of which not more than 6 millions were hand-made.

Indian consumpt.

The East Indian Railway took 20 millions for the grain marts of Behar and the North-Western Provinces (chiefly Patná and Cawnpore); and 1 million went as far as Ludhiána in the Punjab. The total exports by sea exceeded 57 millions, of which 32 millions represent interportal, and 25 millions foreign trade. Bombay took as many as 16 millions, and British Burma 12 millions. In fact, Calcutta supplies bagging for the whole of India.

Sea-borne exports of jute.

The foreign jute trade may be given in greater detail, for gunny-weaving is perhaps the single Indian manufacture that has secured a great foreign market. The sea-borne export of jute manufactures (bags and cloth) in 1872-73 was valued at £188,859. By 1878-79, the value had risen to £1,098,434, or an increase of fivefold in six years. Within the same period

Growth of the trade.

the exports to the United Kingdom alone increased from 21,200 bags valued at £585, to 7 million bags valued at £184,400. These figures seem almost to justify Mr. O'Conor's statement in his *Review of Indian Trade for* 1878-79, that 'there is little room to doubt that in course of time India will be able, not only to supplant the manufactures of Dundee in the American and other foreign markets, but to supply England herself with bags more cheaply than they can be made in Dundee.' On the other hand, it must be recollected that large figures, and even growing figures, do not necessarily show that a business is remunerative. Calcutta, like Bombay, sometimes suffers from the mismanagement incidental to joint-stock enterprises. The other countries, besides Great Britain, which take Indian gunny-bags are:—Australia,

£298,186; Straits Settlements, £161,772; United States (California), £79,795; Egypt, £76,726; China, £32,121.

Brewing has been established on a large scale at the hill stations. There are now about 12 breweries in India; 5 in the Punjab and 5 in the North-Western Provinces, at Mari (Murree), Simla, Kasauli, Masuri (Mussoorie), and Náini Tál; and 2 in the Madras Presidency, at Utakamand and Bellári. The total quantity of beer brewed was returned at 2,162,888 gallons in 1877, and 1,522,769 gallons in 1878, the diminution being due to the termination of a contract between the Commissariat department and one of the Masuri breweries. The total quantity of beer imported in 1878-79 was 2 million gallons by Government, and 1 million gallons on private account; so that the Indian breweries now satisfy just one-third of the entire demand. At Simla, imported beer sells at over 18s. per dozen quarts, while that from the local brewery can be obtained for 11s. per dozen. The hops are entirely imported; for the experimental plantation of 100 acres established by the Rájá of Kashmír has not yet proved a practical success. The imports of hops show a steady increase from 1529 cwts. in 1875-76, to 1807 cwts. in 1876-77, and 2135 cwts. in 1877-78.

Brewing.

Statistics of Indian brewing, 1879.

The steam paper-mills established in the neighbourhood of Calcutta and at Bombay have almost entirely destroyed the local manufactures of paper which once existed in many parts of the country. The hand-made article, which was strong though coarse, and formed a Muhammadan speciality, is now no longer used for official purposes. Besides manufacturing munitions of war, the Government possesses a large leather factory at Cawnpore, which turns out saddlery, etc., of excellent quality. Indeed, leather manufactures are an important local industry in Oudh and the North-Western Provinces. They are conducted on such a scale as to preclude the import from England, except in the case of *articles de luxe*, and saddlery or harness for the richest classes.

Paper-making.

Leather.

The Indian peninsula, with its wide area and diversified features, supplies a great store of mineral wealth, characterised both by variety and unusual richness. In utilizing this wealth, English enterprise has met with many rebuffs. Much capital has been expended, in many cases with no result except disappointment. But the experience has not been thrown away; and mining industry, now established on a sure basis, is gradually rising into an important position in a country

Mines and minerals.

which ought gladly to welcome any employment other than the universal pursuit of agriculture.

Indian iron.

In purity of ore, and in antiquity of working, the iron deposits of India probably rank first in the world. They are to be found in every part of the country, from the northern mountains of Assam and Kumáun to the extreme south of the Madras Presidency. Wherever there are hills, there iron is found and worked to a greater or less extent. The indigenous methods of smelting the ore, which are everywhere the same, and have been handed down unchanged through countless generations, yield a metal of the finest quality in a form well suited to native wants. But they require an extravagant supply of charcoal; and notwithstanding the cheapness of native labour, the product cannot compete in price with imported iron from England. European enterprise, attracted by the richness of the ore and the low rate of wages, has repeatedly tried to establish ironworks on a large scale. But hitherto each of these attempts has ended in failure, alike in Madras, in the Central Provinces, in the Ráníganj coal-field, and in Kumáun.

Indigenous methods.

Failure of English efforts, 1825;

The most promising efforts were those undertaken in Madras by Mr. Heath of the Civil Service, the anticipator of the Bessemer process. In 1825, he founded a company which opened works at Porto Novo on the Coromandel coast, in the hills of Salem District, and at Beypur in Malabar. The iron and steel produced were of first-rate quality; and all went well so long as an unlimited supply of charcoal could be obtained in the neighbourhood of the furnaces. But when this essential condition of cheap production gradually ceased, the enterprise became unremunerative, and had to be abandoned. Within the last few years, an attempt has been made to smelt ore by means of coal, according to English methods, in the neighbourhood of Ráníganj and in Bírbhúm. Coal abounds, and also limestone as a flux; but in this case, again, the Company made no profit, and has been compelled to wind up. Similar experiments, undertaken with Government sanction in the Central Provinces and in Kumáun, have met with similar results. At the present time, iron is manufactured only by peasant families of smelters, each working on a very small scale; and even this industry is languishing under the competition of English imports.

1870.

Difficulties of Indian iron-works.

The initial difficulty in India is to find the three elements of iron-working, namely, the ore, the flux, and the fuel, sufficiently near to each other. The second difficulty is the choking

of the furnaces from the excessive quantity of ash in the coal. The inferior quality of the Indian coal raises the question, whether the native process of beating out the dross and slag at a comparatively low temperature is not better adapted to the circumstances of production in India, than the English method of first smelting and then converting the pig-iron into malleable.

Coal has been known to exist in India since 1774, and is said to have been worked as far back as 1775. The first English coal-mine was opened at Ráníganj in 1820; and there are now altogether 58 collieries in the country, with an annual out-turn of about 1 million tons. In India, as elsewhere, coal and railway extension have gone hand in hand. Coal is comparatively worthless unless it can be brought to market by rail; and the price of coal is the chief element in determining the expenses of railway working. The history of coal in India has, on the whole, been one of continual progress. The first mine, as already mentioned, dates from 1820; and has been worked regularly up to the present time. In 1878, its output was 50,000 tons. Until about 1840 no other mine was opened; but the commencement of the East India Railway in 1854 gave a fresh impetus to the industry, and since that date collieries have been set on foot at the rate of two or three every year. The largest number of additions was seven in 1874. By 1878, the total number of collieries in connection with the East Indian system was 56. From these are supplied not only the railway itself, but also the jute mills of Calcutta, and the river steamers of Lower Bengal. In 1877-78, the railway used 308,000 tons of coal from its own collieries at Karharbárí and Srírámpur, and sent exactly the same quantity to Calcutta. In the same year, the imports of coal into Calcutta by sea were only 80,000 tons, so that Calcutta now uses about 80 per cent. of Indian to 20 per cent. of foreign coal. Bombay, on the other hand, and also Madras, are entirely supplied with coal from England.

Indian coal.

History of Bengal coal-mining, 1820; 1854; 1878.

Imported coal, in Calcutta and Bombay.

The collieries in the Central Provinces, the only other Indian ones worked on a large scale, are limited to the supply of the Great Indian Peninsula Railway. They consist of—(1) the Warora colliery, under the management of the Public Works Department; and (2) the Mohpání colliery, which has been leased to the Narbada Coal Company. In 1878-79, the former had a total output of 43,000 tons, of which 11,000 tons consisted of slack. The gross receipts were £18,686, and the net

Coal-mining in Central Provinces.

receipts £5873, being about 8·3 per cent. on the estimated capital expenditure of £70,000. Cost of raising coal in the Central Provinces, Rs. 2. 10. (5s. 3d.) per ton; price paid by the Railway Company for large coal, Rs. 5 (10s.) per ton. In 1877-78, the cotton mills at Nágpur took 4872 tons. The Mohpání colliery had an output in 1878-79 of 8900 tons, valued at £8000. Almost the whole of this was taken by the Great Indian Peninsula Railway.

Excessive ash of Indian coals.

The principal drawback of Indian coal is its large proportion of ash; varying from 14 to 20 per cent., as against 3 to 6 per cent. in English coal. This places Indian coal measures at a great disadvantage, alike for iron-smelting and locomotive purposes. But it has been proved that, with efficient fire-grates and proper manipulation, 135 lbs. of Warora coal will do the work of 100 lbs. of English coal.

Ráníganj coal-field.

The Ráníganj coal-field has been estimated at 500 square miles. In this 'black country' of India, which is dotted with tall chimney-stalks, 6 European companies are at work, besides many native firms.[1] At first coal was raised from open workings; but regular mining is now carried on, according to the system known as 'pillar and stall.' The seams are entirely free from gas, so that the precautions usual in England against explosion are found unnecessary. The miners are all drawn from the aboriginal races, chiefly Santáls and Bauris, who are noted for their endurance and docility. Bauris work with the pick, but Santáls will consent to use no other instrument than the crowbar. Wages are high, and the men look well-fed, although they waste their surplus earnings in drink.

Distribution of coal in India.

The coal-fields of India lie almost entirely in the broad centre of the peninsula, between the Ganges and the Godávari. South of the Godávari no carboniferous strata exist; and the whole Presidency of Madras is thus compelled to depend for its supply upon importation. North of the Ganges, the only extensive fields are to be found in the outlying Province of Assam. There, in the Khásí and Jáintia Hills, mines have been worked on a small scale for many years; but the aggregate of the deposits is insignificant, and the difficulties of carriage almost insurmountable. Still farther away, in the frontier District of Lakhimpur, there is a large coal-field of excellent quality, which it is proposed to open out by a light railway running down to the Brahmaputra. Coal is also found

Outlying beds in Assam,

[1] For a full account of the Ráníganj coal-field, see article RANIGANJ, *Imperial Gazetteer*, vol. viii.; and for its geological aspects, see a subsequent section of the present article, *post*, pp. 605, 606.

in the neighbourhood of Dárjíling, and in the Salt Range of the Punjab. Apart from these outlying beds, the central coal-fields of India have been divided by Mr. Blanford, of the Geological Survey, into the four following groups:—(1) The Damuda valley, including both Ráníganj and Karharbárí, which yields at least nine-tenths of all the coal now produced in India, and finds a ready market at Calcutta. (2) The Chutiá Nágpur group, extending over a wide area of mountainous and difficult country, and as yet but imperfectly explored. (3) The Narbada valley, south of the Sátpura range, where actual borings have hitherto proved disappointing, except in the case of the Mohpání colliery, which is connected by a short branch with the main line of the Great Indian Peninsula Railway. (4) The Godávari valley, where coal has been traced from Nágpur southwards as far as Ellore: In this coal-field the only successful works are at Warora.

Dárjíling, Punjab.

The four great coal-fields.

Of the future of Indian coal it is difficult to speak with certainty. On the one hand, the demand is constant, and increases with the construction of every fresh mile of railway, and every new factory. On the other hand, the quality is distinctly inferior to English coal, which comes out to India at a low freight—almost at ballast rates. Ráníganj coal, which is the best of the Indian coals, can do only from one-half to two-thirds of the duty performed by the same amount of English coal. It contains a low proportion of fixed carbon, and an excessive amount of ash.

Future of Indian coal.

Salt, an article of supreme necessity to the Indian peasant, who eats no butcher's meat, except a festival goat or kid at rare intervals, is derived from three main sources, exclusive of importation from Europe.[1] (1) By evaporation from sea-water along the entire double line of seaboard from Bombay to Orissa, but especially in Guzerat and on the Coromandel coast. (2) By evaporation from inland salt lakes, of which the Sámbhar Lake in Rájputána affords the chief example. (3) By quarrying solid hills of salt in the north-east of the Punjab. The last is the only source in which salt in India can be said to exist as a mineral. It occurs in solid cliffs, which for extent and purity are stated to have no rival in the world. The Salt Range runs across the two Districts of Jhelum and Sháhpur, from the bank of the Jhelum river to Kálábágh in Bannu District. Similar deposits are found beyond the

Indian salt.

Its three sources.

The Punjab salt range.

[1] For the administrative aspects of Indian salt, see *ante*, pp. 451-52; and for its geological aspects, *post*, p. 602.

Indus in Kohát District, where the salt is of two kinds, red and green; and in the Hill State of Mandi bordering on Kángrá District. The salt is found in the red marls and sandstones of the Devonian group. In some cases it can be obtained from open quarries; but more generally it is approached by regular mining by pick and blasting, through wide galleries. The principal mine is at Keora in Jhelum District, now called after Lord Mayo. The total annual outturn in the Punjab is returned at about 50,000 tons, yielding a revenue to Government of more than £400,000. In 1877-78, the actual figures of revenue were—(1) from the Salt Range, £426,000; (2) from Kohat, £8000; (3) from Mandi, £6000.

Salt supply of Madras and Bengal.

In Southern India, salt made by evaporation is almost universally consumed. Lower Bengal, and especially Eastern Bengal, use salt imported from Cheshire, at low rates of freight, and paying the excise duty at Calcutta or other port of entry. In Orissa and South-Western Bengal, both imported salt and salt made by solar evaporation are consumed; the solar salt being alone considered pure for religious purposes or for the priests.

Indian saltpetre.

India has almost a monopoly of the supply of natural saltpetre, upon which Europe largely depends for the manufacture of gunpowder. It occurs with other saline substances as a white efflorescence upon the surface of the soil in many parts of the country, especially in the upper valley of the Ganges. Its preparation leaves common salt as one of the residuary products; and fiscal restraints have accordingly tended to limit the manufacture to the most remunerative region, which is found in North Behar. The manufacture is simple, and entirely in the hands of a special caste of natives, called Nuniyás, who are conspicuous for their capacity of enduring hard work. As is the case with most Indian industries, they work under a system of money advances from middle-men, who are themselves sub-contractors under the large houses of business. In former times, the East India Company engaged in the manufacture on its own account; and when it gave up its private trade, the works were taken over by European firms. But these have in their turn retired from the business, which is now in a state of decline (almost killed in Southern India), partly owing to the general fall in price, and partly to the restrictions imposed by the salt preventive department.

System of manufacture.

Process of manufacture.

The manufacturing season begins with the cold season in November. The presence of saltpetre in the soil is revealed by efflorescence after a heavy fall of rain. This earth is

scraped together, and first placed in a large vessel, through which water is filtered. The brine is then boiled in pots, and crude saltpetre mixed with common salt is the result. The proportion of salt to saltpetre is said to be about one-sixth. The sale of this salt is prohibited under stringent penalties. The crude saltpetre is now handed over to the refiners, who work on a larger scale than the Nuniyás. It is again subjected to a process of boiling in large iron boilers of English manufacture, and is allowed to crystallize gradually in open wooden troughs. In refining, it loses nearly one-half its weight, and is now ready for the market. In 1873, the single District of Tirhut contained 22,528 filters, and 305 refineries.

Exports of saltpetre.

The exports of saltpetre from Calcutta are fairly constant, averaging about 450,000 cwts. a year, of which one-half goes to the United Kingdom. More than two-thirds of the total comes from Behar, chiefly from the Districts of Tirhut, Sáran, and Champáran, though Patná is the railway station for despatch to Calcutta. Cawnpore, Gházípur, Allahábád, and Benares, in the North-Western Provinces, send small quantities; while a little comes from the Punjab.

Indian gold.

Although silver has ever been the currency of India in historical times, that metal is nowhere found in the country, nor in the adjoining States of Central Asia. Gold, on the other hand, exists in many parts of India, and probably in large quantities. The 'Ophir' of King Solomon has been identified by some critics with the Malabar coast. However that may be, India claims to rank as a gold-producing country. Many hill streams are washed for gold, alike in the extreme south, in the central plateau, and on the north-east and north-west frontiers. Gold-washing is everywhere in India a miserable business, affording the barest livelihood; but the total amount of gold obtained cannot be insignificant.

Gold-mining in Madras.

In recent years, attention has been prominently drawn to the possibility of extracting gold from the quartz formation of Southern India, which bears many points of resemblance to the auriferous quartz reefs of Australia. The principal localities are in the Wainád (Wynaad) Subdivision of the Nílgiri District, and in Kolár District of Mysore. Gold-washing has always been practised here; and the remains of old workings show that at some unknown period operations have been conducted on a large scale. Since about 1870, individual pioneers have been prospecting in this region. Crushing the quartz by rude native methods, they proved that it contained a

larger proportion of gold than is known to give a profit in Australia. These experiments on the southern ends of six reefs yielded an average of 7 dwts. per ton of quartz, rising in one case to 11 dwts. The best assay of the gold showed a fineness of slightly over 20 carats. In 1879, Government summoned a practical mining engineer from Australia, whose report is eminently hopeful. He describes the quartz reefs as of great extent and thickness, and highly auriferous. One reef in Kolár, laid bare 100 feet longitudinally, has given an average of 1 oz. of gold per ton. In order to attract capital, Government has proposed to grant mining leases at a dead rent of Rs. 5 (10s.) per acre, subject to no royalty or further tax. Hitherto, the enterprise has scarcely passed beyond the stage of laboratory experiments. But several English companies with large capital have already entered the field, and the reports of their professional advisers hold forth high hopes of ultimate success. If the results of working with elaborate machinery realize these promises, gold-mining will shortly be established as an important industry in Southern India.

Other metals.

Copper.

The other Indian metals comprise copper, lead, and tin. Copper exists in many parts of the country in considerable quantities. The richest mines are in the lower ranges of the Himálaya, from Dárjíling westward to Kumáun. The ore occurs in the form of copper pyrites, often accompanied by mundic, not in true lodes, but disseminated through the slate and schist. The miners are almost always Nepális, and the remoteness of the situation has deterred European capital. The extent of abandoned workings shows that these mines have been known and worked for many years. The best seams show a proportion of copper slightly above the average of Cornish ore, but the ordinary yield is not more than about 4 per cent. The mines resemble magnified rabbit-holes, meandering passages being excavated through the rock with little system. The tools used are an iron hammer and chisel, with sometimes a small pick. After extraction, the ore is pounded, washed, and smelted on the spot. The price obtained for the metal is Rs. 2. 8. per 3 *sers*, or at the rate of about 10d. a pound. Copper-ore, of fair purity and extending over a considerable area, also occurs in Singbhúm District of Chutiá Nágpur, where there are many deserted diggings and heaps of scoriæ. In 1857, a Company was started to reopen the workings at these mines; but although large quantities of ore were produced, the enterprise did not prove remunerative,

Nepálí miners.

'Rabbit-hole' mines.

Singbhúm copper.

and was finally abandoned in 1864. A similar attempt to work the copper found in Nellore District in Madras also ended in failure. Nellore.

Lead occurs, in the form of sulphuret or galena, along the Himálayas on the Punjab frontier, and has been worked at one place by an English company. Tin is confined to the Burmese peninsula. Very rich deposits, yielding about 70 per cent. of metal, occur over a large extent of country in Mergui and Tavoy Districts of the Tenasserim District. The ore is washed and smelted, usually by Chinese, in a very rough and unscientific way. Recent experiments by a European firm tend to show that the deposits, although rich and extensive, are not sufficiently deep to repay more elaborate processes. Antimony, in the form of *surmá*, largely used by the natives as a cosmetic for the eyes, is chiefly derived from the Hill States of the Punjab. It is also found in Mysore and Burma. The minerals of Rájputána have not yet been thoroughly investigated; but they include an ore of cobalt, used for colouring enamel. Lead. Tin. Antimony. Cobalt.

Petroleum is produced chiefly in Independent Burma, but it has also been found on British territory in Pegu, in Assam, and in the Punjab. Near the village of Ye-nang-yaung in Upper Burma, on the banks of the Irawadi, there are upwards of 100 pits or wells with a depth of about 250 feet, from which petroleum bubbles up in inexhaustible quantities. The annual yield is estimated at 11,000 tons, of which a considerable quantity is exported. Petroleum wells are also found in the British Districts of Akyab, Kyouk-hpyu, and Thayet-myo, which first attracted British capital with most promising results in 1877. In Assam, petroleum occurs in the neighbourhood of the coal-fields in the south of Lakhimpur District, and was worked in conjunction with the coal by a European capitalist in 1866. In the Punjab, petroleum was worked experimentally by the Public Works Department at two spots in Ráwal Pindí District. In 1873-74, the total yield was 2756 gallons. Petroleum, in Burma; in Assam; in Punjab.

The commonest and also the most useful stone of India is *kankar*, a nodular form of impure lime, which is found in almost every river valley, and is used from one end of the peninsula to the other for metalling the roads. Lime for building (*chunám*) is derived from two sources—(1) from burning limestone and *kankar*, and (2) from the little shells so abundantly found in the marshes. Calcutta derives its chief supply from Stone, etc. Lime.

the quarries of the Khásí Hills in Assam, known as 'Sylhet lime,' and from the Susuniá quarries in Bankura District. Kankar. Except for occasional beds of *kankar*, the lower valley of the Ganges is absolutely destitute of stone; nor does the alluvial soil afford good materials for brickmaking or fine pottery. But Pottery. a European firm has recently established large pottery works at Ránígani in Bardwán, which employ about 500 hands, and carry out contracts for drainage pipes and stoneware. The Building-stone. centre of the peninsula and the hill country generally abound in building-stone of excellent quality, which has been used locally from time immemorial. Among the finest stones may Marble. be mentioned—the pink marble of Rájputána, of which the historical buildings at Agra were constructed; the trap of the Deccan; the sandstone of the Godávari and the Narbada; Slate. and the granite of Southern India. Quarries of slate are scattered through the peninsula, and sometimes worked by Mica and talc. European capital. Mica and talc are also quarried to make ornaments. Among the hills of Orissa and Chutiá Nágpur, household vessels and ornaments are skilfully carved out of an indurated variety of potstone.

Precious stones. Despite its legendary wealth, which is really due to the accumulations of ages, India cannot be said to be naturally prolific in precious stones. Under the Muhammadan rule, Diamonds, diamonds were a distinct source of State revenue; but at the present day, the search for them, if carried on anywhere in British territory, is too insignificant an occupation to have attracted the notice of Government. The name of Golconda has passed into literature; but that city, once the Musalmán capital of the Deccan, was rather the home of the diamond-cutters than the actual source of supply. It is believed that the at Golconda; far-famed diamonds of Golconda actually come from the sandstone formation, which extends across the south-east borders of the Nizám's Dominions into the Madras Districts of Ganjám and Godávari. A few worthless stones are still found in this region. Sambalpur, on the upper channel of the Mahánadi river in the Central Provinces, is another spot once famous for diamonds. In the last century, a British officer was despatched in Sambalpur; to Sambalpur by Clive to arrange for remittances home by means of Sambalpur diamonds. As late as 1818, a stone is said to have been found here weighing 84 grains and valued at £500. The river valleys of Chutiá Nágpur are also known to have yielded a tribute of diamonds to their Muhammadan conqueror. At the present day, the only place where the search for diamonds is pursued as a regular industry is the

Native State of Panna (Punnah) in Bundelkhand. The stones are found by digging down through several strata of gravelly soil, and washing the earth. Even here, however, the pursuit is understood to be unremunerative, and has failed to attract European capital. About other gems very little information is available. The town of Cambay in Guzerat is celebrated for its carving of carnelian, agate, and onyx. The stones come from the neighbourhood of Ratanpur, in the State of Rájpípla. They are dug up by Bhíl miners, and subjected to a process of burning before being carved. The most valued colour for carnelians is red, but they are also found white and yellow. Lapis lazuli is found in the mountains of the north, and is freely used in the decoration of temples and tombs.

in Bundelkhand.

Carnelians.

Inferior pearl fisheries are worked off the coast of Madura District in the extreme south, and in the Gulf of Cambay; but the great majority of Indian pearls come either from Ceylon (which is also rich in other gems) or from the Persian Gulf. In the year 1700, the Dutch obtained a lease of all the pearl fisheries along the Madura coast, and sublet the right of fishing to native boatmen, of whom 700 are said to have taken licences annually at the rate of 60 *écus* per boat.

Pearl fisheries.

I have now sketched the physical aspects of India, its past history, and its present administration and condition under British Rule. It remains to briefly deal with the topics of scientific interest connected with the country: its material framework or geology; its climatic conditions, or meteorology; its animal and vegetable products; and the health statistics of its population. Each of these forms the subject of elaborate volumes, and the adequate treatment of the entire group would demand a body of scientific coadjutors whose aid I do not possess. But some account of them may be useful for administrative purposes. The following pages are offered not for the instruction of specialists, but to the general reader who wishes to study India in all its various aspects. In previous sections, I have not hesitated to repeat myself, when dealing with several products, such as opium, cotton, and salt, first from the administrative and then from the economic point of view. For I believe that such repetitions are convenient to many who desire a fairly complete view of the subject under each head. In like manner, I shall not hesitate to again repeat myself, in referring to certain productions, such as coal, iron, or forests, in their scientific aspects.

Scientific branches of the subject.

GEOLOGY.[1]—For geological purposes India may be mapped out into the three geographical divisions of—the Himálayan region, the Indo-Gangetic plain, and Peninsular India.

Himálayas. *The Himálayan Region.*—The geology of this tract is more complex and less fully known than that of the Peninsular area. Until the ground has been carefully gone over by the Geological Survey, many points must remain doubtful; and large areas of the Himálayas (Nepál and Bhután) are still inaccessible to Europeans. The oldest rock of the Himálayas is a gneiss, differing in character from the gneiss of the Peninsula, and from that of Assam and Burma. The Himálayan gneiss is usually white and grey, its felspar orthoclase and albite; it contains much mica and mica schist, and is more uniform in character than the gneiss of the Peninsula. The latter is usually pink, its felspar being orthoclase and oligoclase; it contains little mica schist, but often has quartzite and hornblendic rock. Hornblende occurs in the syenitic gneiss of the Northern Himálayan (or Ladákh) range.

Gneiss.

Central gneissic axes. The Central Himálayan region may be described as consisting of two gneissic axes, with a trough or synclinal valley between them, in which fossiliferous beds have been deposited and are now preserved. The gneiss of the southern or main axis (the 'central gneiss' of Dr. Stoliczka) is the oldest; that of the northern or Ladákh axis comes next in age. The gneiss of the Ladákh axis is generally syenitic, or is that variety of the Himálayan gneiss already described as containing hornblende. It is probably an extremely altered condition of ordinary marine sediment. The gneiss of the central axis is the ordinary kind; it is penetrated by granite, which ranges along some of the highest peaks. Between these two gneissic axes occurs the basin-shaped valley, or the Hundes and Zanskar synclinal. In this valley fossiliferous rocks are preserved, giving representatives of the Silurian, Carboniferous, Triassic, Jurassic, and Cretaceous formations. All these seem there to have followed each other without important breaks or

[1] This section is based upon the official *Manual of the Geology of India*, by Messrs. H. B. Medlicott and W. T. Blanford, 2 vols., Government Press, Calcutta, 1879. Mr. W. Topley, of the English Geological Survey, conducted the preliminary condensation. Some of the following sections have been extracted by my permission from the *Imperial Gazetteer*, for the use of the *Encyclopædia Britannica.* On the other hand, the proprietors of that work have permitted me to use the Flora section from the *Encyclopædia*, compiled by Mr. W. T. T. Dyer of Kew. I shall take steps to secure a revision and an amplification of these scientific sections by the professional Departments of the Government on my return to India.

unconformities; but after the deposition of the Cretaceous rocks of the Himálayan region important changes appear to have taken place in its physical geography. The Nummulitic (Eocene) strata were laid down on the eroded edges of some of the older beds, and in a long trough within the Silurian gneiss of the Ladákh axis.

On the south of this true Himálayan region there is a band of country known as the Lower Himálaya, in which the beds Lower Himá-layas. are often greatly disturbed, and even completely inverted, over great areas, the old gneiss apparently overlying the sedimentary rocks. This Lower Himálayan region is about 50 miles wide, and consists of irregular ridges, varying from 5000 to 8000 feet in height, and sometimes reaching 12,000 feet. Resting upon the gneiss, but often through inversion apparently underlying it, in the neighbourhood of Simla, is a series of unfossiliferous beds (schists, quartzites, sandstones, shales, limestones, etc.) known in descending order as the Krol, Infra-Krol, Blaini, and Infra-Blaini beds. In the Krol beds is a massive limestone (Krol limestone) probably representing Krol limestone. the limestone of the Pir Panjál range, which is most likely of Carboniferous age. The Blaini and Infra-Blaini beds are probably Silurian.

The Lower Himálayan range ends at the Sutlej valley, west of which the continuation of the central range is followed Sub-Himá-layas. immediately by the third or sub-Himálayan range. This occurs almost always on the south of the Lower Himálayas, and is composed of later Tertiary rocks (Siwáliks, etc.), which range parallel with the main chain. Generally the sub-Himálayas consist of two ranges, separated by a broad flat valley (*dún* or 'doon'); the southern slope, overlooking the great Indo-Gangetic plain, is usually the steepest. Below Náini Tál and Dárjíling (Darjeeling), the sub-Himálayan range is wanting; on the Bhután frontier the whole range is occasionally absent, and the great alluvial plain slopes up to the base of the Lower Himálayan region. It is within the sub-Himálayan range that the famous Siwálik beds occur, long known for Siwálik beds. their vast stores of extinct mammalia. Of about the same age are the Manchhar beds of Sind, which also contain a rich mammalian fauna. The Lower Manchhars probably correspond to the Náhan beds, the lowest of the Siwáliks; they rest upon the Gaj beds, which are probably Upper Miocene. From this it would seem that the lowest Siwáliks are not older than Upper Miocene. The higher Siwálik beds are considered by Mr. W. T. Blandford to be Pliocene, and to this later period

he also refers the mammalian beds of Pikermi in Greece. These have a large number of fossils in common with the Siwáliks; but they contain, at their base, a marine band with Pliocene shells. The Manchhar and Siwálik beds are chiefly of fresh-water origin.

Salt Range.

The Salt Range in the north-west of the Punjab has, in addition to its economic value, a special geological importance. Representatives of most of the great European formations of Silurian and later epochs are found in it; and throughout the vast length of time represented by these formations there is here no direct evidence of any important break in succession, or unconformity. The lowest beds (salt marl, probably Silurian) and the highest (Siwáliks) are found throughout the range. But the others cannot be traced continuously throughout; some occur well developed in one place, some in another. All the principal fossiliferous beds of the Jurassic, Triassic, and Carboniferous formations are confined to the western part of the range.

Indo-Gangetic Plain.

The *Indo-Gangetic Plain* covers an area of about 300,000 square miles, and varies in width from 90 to nearly 300 miles. It rises very gradually from the sea at either end; the lowest point of the watershed between the Punjab rivers and the Ganges is about 924 feet above sea level. This point, by a line measured down the valley, but not following the winding of the river, is about 1050 miles from the mouth of the Ganges and 850 miles from the mouth of the Indus, so that the average inclination of the plain, from the central watershed to the sea, averages only about 1 foot per mile. It generally exceeds this near the watershed; but there is here no ridge of high ground between the Indus and the Ganges, and a very trifling change of level would often turn the upper waters of one river into the other. It is not unlikely that such changes have in past time occurred; and if so, an explanation is afforded of the occurrence of allied forms of fresh-water dolphins (Platanista) and of many other animals in the two rivers, and in the Brahmaputra. Towards the sea-coast the slope becomes almost imperceptible.

Its slope to the sea.

Its geological age.

There is no evidence that the Indo-Gangetic plain existed as such in Pre-Tertiary times. The alluvial deposits made known by the boring at Calcutta, have already been described in sufficient detail.[1] They prove a gradual depression of the area through the later Tertiary times. There are peat and forest

Its alluvial deposits.

[1] See *ante*, pp. 149, 150.

beds, which must have grown quietly at the surface, alternating with deposits of gravel, sand, and clay. The thickness of the delta deposit is unknown; 481 feet was proved at the bore hole, but probably this represents only a very small part of the deposit. Outside the delta, in the Bay of Bengal, is a deep depression known as the 'swatch of no ground'; all around it the soundings give only 5 to 10 fathoms, but they very rapidly deepen to over 300 fathoms. The sediment seems to be carried away from this hole by the set of the currents; so that it has remained free from silt whilst the neighbouring sea-bottom has gradually been filled up. If so, the thickness of the alluvium is at least 1800 feet, and may be much more.

Its geological history.

The Indo-Gangetic plain dates back to Eocene times; the origin of the Himálayas may be referred to the same period. Numerous minor disturbances occurred in the area which is now Northern India during Palæozoic and Secondary times, but the great disturbance which has resulted in the formation of the existing chain of the Himálayas took place after the deposition of the Eocene beds. Disturbances even greater in amount occurred after the deposition of the Pliocene beds. The Eocenes of the sub-Himálayan range were deposited upon uncontorted Palæozoic rocks, but the whole has since been violently contorted and disturbed. There are some indications that the disturbing forces were more severe to the eastward during middle Tertiary times, and that the main action to the westward was of later date. It seems highly probable that the elevation of the mountain ranges and the depression of the Indo-Gangetic plain were closely related. This view gains some support from a glance at the map, where we see that the curves of the great mountain chains are strictly followed by those of the great alluvial plain. Probably both are due to almost contemporary movements of the earth's crust; these movements, though now of vastly diminished intensity, have not wholly ceased. The alluvial deposits prove depression in quite recent geological times; and within the Himálayan region earthquakes are still common, whilst in Peninsular India they are rare.

Peninsular India.

Peninsular India.—The oldest rocks here consist of gneiss, in three tracts:—throughout a very large part of Bengal and Madras, extending to Ceylon; among the Aravalli ranges; and in Bundelkhand. Of these formations, the gneiss of Bundelkhand is known to be the oldest, because the oldest Transition rocks rest upon it; whereas the same Transition

rocks are altered and intersected by granitic dykes which proceed from the gneiss of the other tracts. The Transition rocks are of great but unknown age. The Vindhyán rocks which succeed them are of very old Palæozoic age, perhaps pre-Silurian. Yet long before the earliest Vindhyán rocks were laid down, the Transition rocks had been altered and contorted. In more recent times there have been local disturbances, and large faults have in places been found; but the greater part of the Peninsular rocks are only slightly disturbed, and the most recent of the great and wide-spread earth movements of this region date back to pre-Vindhyán times. The Vindhyán series are generally sharply marked off from older rocks; although in the Godávari valley there is no well-defined line between these and the Transition rocks.

Vindhyán rocks.

The Vindhyan beds are divided into two groups. The lower, with an estimated thickness of only 2000 feet, or slightly more, cover a large area,—extending, with but little change of character, from the Son valley in one direction to Cuddapah, and in a diverging line to near Bijápur—in each case a distance of over 700 miles. The upper Vindhyáns cover a much smaller area, but attain a thickness of about 12,000 feet. The Vindhyáns are well-stratified beds of sandstone and shale, with some limestones. As yet they have yielded no trace of fossils, and their exact age is consequently unknown. So far as the evidence goes, it appears probable that they are of very ancient Palæozoic age, perhaps pre-Silurian. The total absence of fossils is a remarkable fact, and one for which it is difficult to account, as the beds are for the most part quite unaltered. Even if they are entirely of fresh-water origin, we should expect that some traces of life from the waters or neighbouring land would be found.

Lower Vindhyáns.

Upper Vindhyáns.

The Gondwána series is in many respects the most interesting and important of the Indian Peninsula. The beds are almost entirely of fresh-water origin. Many subdivisions have been made, but here we need only note the main division into two great groups:—Lower Gondwánas, 13,000 feet thick; Upper Gondwánas, 11,000 feet thick. The series is mainly confined to the area of country between the Narbadá and the Son on the north and the Krishna on the south; but the western part of this region is in great part covered by newer beds. The lowest Gondwánas are very constant in character, wherever they are found; the upper numbers of the lower division show more variation, and this divergence of character in different Districts becomes more

Gondwána series.

marked in the Upper Gondwána series. Disturbances have occurred in the lower series before the formation of the upper.

The Gondwána beds contain fossils which are of very great interest. In large part these consist of plants which grew near the margins of the old rivers, were carried down by floods, and deposited in the alluvial plains, deltas, and estuarine areas of the old Gondwána period. So vast was the time occupied by the deposition of the Gondwána beds, that great changes in physical geography and in the vegetation repeatedly occurred. The plants of the Lower Gondwánas consist chiefly of acrogens (Equisetaceæ and ferns) and gymnogens (cycads and conifers), the former being the more abundant. The same classes of plants occur in the Upper Gondwánas; but there the proportions are reversed, the conifers, and still more the cycads, being more numerous than the ferns, whilst the Equisetaceæ are but sparingly found. But even within the limits of the Lower Gondwána series there are great diversities of vegetation, three distinct floras occurring in the three great divisions of that formation. In many respects the flora of the highest of these three divisions (the Pánchet group) is more nearly related to that of the Upper Gondwánas than it is to the other Lower Gondwána floras. Gondwána fossils. Pánchet group.

One of the most interesting facts in the history of the Gondwána series is the occurrence near the base (in the Tálcher group) of large striated boulders in a fine mud or silt, the boulders in one place resting upon rock (of Vindhyán age) which is also striated. There seems good reason for believing that these beds are the result of ice-action. They probably nearly coincide in age with the Permian beds of Western Europe, in which Professor Ramsay long since discovered evidence of glaciation. But the remarkable fact is that this old ice-action occurred within the tropics, and probably at no very great height above the sea. Tálcher group.

The Dámodar series, the middle division of the Lower Gondwánas, is the chief source of coal in Peninsular India, yielding more of that mineral than all other formations taken together. The Karharbári group is the only other coal-bearing formation of any value. The Dámodars are 8400 feet thick in the Ráníganj coal-field, and about 10,000 feet thick in the Sátpura basin. They consist of three divisions; coal occurs in the upper and lower, ironstone (without coal) in the middle division. The Ráníganj coal-field is the most important in India. So far as is yet known, it covers an area of about 500 square miles, running about 18 miles from north to south, and about 39 Dámodar series and coal-fields. Ráníganj coal-field.

miles from east to west; but it extends farther to the east under the laterite and alluvium. It is traversed by the Dámodar river, together with the road from Calcutta to Benares and the East Indian Railway. From its situation and importance, this coal-field is better known than any other in India. Much has been learnt concerning it since the last examination by the Geological Survey, especially from the recent reports by Mr. H. Bauermann.

Rániganj coal-seams.

The upper or Rániganj series has eleven seams, with a total thickness of 120 feet, in the eastern district, and thirteen seams, 100 feet thick, in the western district. The average thickness of the seams worked is from 12 to 18 feet, but occasionally a seam reaches a great thickness — 20 to 80 feet. The lower or Barákhar series (2000 feet thick) contains four seams, of a total thickness of 69 feet. Compared with English coals, those of this coal-field are of a poor quality; they contain much ash, and are generally non-coking. The seams of the lower series are the best, and some of these at Sánktoria, near the Barákhar river, are fairly good for coke and gas. The best coal in India is in the small coal-field at Karharbári. The beds there are lower in the series than those of the Rániganj field; they belong to the upper part of the Tálcher group, the lowest of the Gondwána series. The Karharbári coal-beds cover an area of about 11 square miles; and have three seams, varying from 9 to 33 feet thick. The lowest seam is the best, and it is nearly as good as English steam coal. This coal-field, now largely worked, is the property of the East Indian Railway, which is thus supplied with fuel at a cheaper rate than any other railway in the world. Indian coal usually contains phosphoric acid, which greatly lessens its value for iron-smelting.[1]

Barákhar seams.

Karharbári coal-field.

Dámodar iron-stone.

The Dámodar series, which, as we have seen, is the chief source of coal in India, is also one of the most important sources of iron. The ore occurs in the middle division, coal in the highest and lowest. The ore is partly a clay ironstone, like that occurring in the coal-measures of England, partly an oxide of iron or hæmatite. It generally contains phosphorus, which prevents its use in the preparation of the finer qualities of steel. A similar difficulty attends the use of the Cleveland ore of North Yorkshire. Experiments have been in progress for years in search of a process which shall, in an

[1] The economic aspects of Indian coal have been dealt with *ante*, pp. 591, 592. For full accounts of the Indian coal-fields, see articles RANIGANJ, KARHARBARI, etc., in the *Imperial Gazetteer of India*.

economical manner, obtain iron from Cleveland ore free from phosphorus, latterly, it is hoped, with some success. If this be so, India will be a great gainer. Excellent iron-ore occurs in the metamorphic rocks south of the Dámodar river. Laterite (see below) is sometimes used as ore. It is very earthy, with a low percentage of metal; but it contains only a comparatively small proportion of phosphorus.[1]

The want of limestone for flux, within easy reach, is generally a great drawback as regards iron-smelting in India. *Kankar* or *ghutin* (concretionary carbonate of lime) is collected for this purpose from the river beds and alluvial deposits. It sometimes contains as much as 70 per cent. of carbonate of lime; but generally the proportion is much less, and the fluxing value proportionally diminished. The real difficulty in India is to find the ore, the fuel, and the flux, in sufficiently close proximity to yield a profit. *Kankar.*

The enormous mass of basaltic rock known as the Deccan trap, is of great importance in the geological structure of the Indian Peninsula. It now covers an area of about 200,000 square miles, and probably extended in former times over a much wider area. Where thickest, the traps are at least 6000 feet in depth. They form the most striking physical features of the country, many of the most prominent hill ranges being the denuded edges of the basaltic flows. The great volcanic outbursts which produced this trap commenced in the Cretaceous period, and lasted into the Eocene period. Deccan trap.

Laterite is a ferruginous and argillaceous rock, varying from 30 to 200 feet thick, which often occurs over the trap area, but is also found in other tracts. As a rule, it makes rather barren land; it is highly porous, and the rain rapidly sinks into it. Laterite may be roughly divided into two kinds, high-level and low-level laterite. The former, which covers a large area of the high basaltic plains, is believed by Mr. R. B. Foote to be very frequently the product of decomposition of the trap, and to have been thus formed in the place where it is now found. Sometimes the high-level laterite overlies gneiss or other rocks; and in these cases it has probably been transported. The low-level laterite is generally more sandy in character, and is often associated with gravels. In most cases this has clearly been carried down to its present position, probably largely by subaerial action, aided by rains and streams. Possibly in some cases it has been spread out along the coasts by marine action. The low-level laterite Laterite; high-level; low-level.

[1] For the economic aspects of Indian iron, see *ante*, pp. 590, 591.

fringes the coast of the Peninsula, from near Bombay on the west and Orissa on the east, to Cape Comorin. It is not continuous throughout these regions; and it is of very varying width and elevation. The age of the high-level laterite is unknown. Its formation probably extended throughout a long period of time, much of which must be of very ancient date; for the laterite, together with the underlying basalt, has suffered extensive denudation.

Precious stones.

As regards gems, the geologist comes to the same conclusion as the economist, viz., that the precious stones of ancient India were the product of forced labour, and that the search for them in our days can scarcely repay the working expenses.

Meteorology of India.

METEOROLOGY.—The great peninsula of India, with its lofty mountain ranges and its extensive seaboard, exposed to the first violence of the winds of two oceans, forms an exceptionally valuable and interesting field for the study of meteorological phenomena. But the Department of Government which deals with these phenomena has had to contend with many obstacles; and it is only within the last few years that trustworthy statistics have been obtained for a complete system of registration stations. Every year, however, is now adding to our knowledge of the meteorology of the country, and supplying fresh authentic materials for purposes of comparison and induction.

Meteorological Geography.

Meteorological Geography.—After the general description of the country given at the beginning of this article, it is only necessary to sketch very briefly the meteorological geography of India. The following paragraphs are condensed from an interesting account in the official *Report on the Meteorology of India* (for 1875), by Mr. H. F. Blanford. The great mountain ranges of the HIMALAYAS and the SULAIMANS, which form the northern and north-western boundaries of India, have been fully described.[1] From the gorge of the Indus to that of the Dihong (Brahmaputra), a distance of 1400 miles, the Himálayas form an unbroken watershed, the northern flank of which is drained by the upper valleys of these two rivers; while the Sutlej (Satlaj), starting from the southern foot of the Kailás peak, breaks through the watershed, dividing it into

Himálayas.

[1] See *ante*, pp. 131-133; also articles HIMALAYAS and SULAIMAN, *Imperial Gazetteer*, vols. iv. and viii.

two very unequal portions, that to the north-west being the smaller. The average elevation of the higher Himálayas may be taken at not less than 19,000 feet, and therefore equal to the height of the lower half of the atmosphere; indeed, few of the passes are under 16,000 or 17,000 feet. Across this mountain barrier there appears to be a constant flow of air, more active in the day-time than at night, northwards to the arid plateau of Tibet. There is no reason to believe that any transfer of air takes place across the Himálayas in a southerly direction; unless, indeed, in those elevated regions of the atmosphere which lie beyond the sphere of observation. But a nocturnal flow of cooled air, from the southern slopes, is felt as a strong wind where the rivers debouch on the plains, more especially in the early morning hours. This current probably contributes to lower the mean temperature of the belt of the plains which fringes the mountain zone. Himálayan air-currents.

The Eastern Himálayas present many points of contrast with the western parts of the range. The slopes of the Sikkim and Bhután Hills, where not denuded for the purposes of cultivation, are clothed with a dense impenetrable forest, which at the lower levels abounds in figs, rattans, and representatives of a tropical humid climate. At higher levels they are covered with oaks, chestnuts, magnolias, pines, etc., of the most luxuriant growth. Eastern Himálayas.

In the Western Himálayas, on the other hand, the spurs of the outer ranges are more sparsely clad with forest, especially on their western faces; and naked precipitous crags are of constant occurrence. The vegetation of the lower and warmer valleys, and of the fringing belt (the Taráí), is comparatively thin, and such as characterizes a warm but dry region. Pines of several species form a conspicuous feature of the landscape at lower levels. It is chiefly the outer ranges that exhibit these contrasted features; and they depend partly on the difference of latitude, but mainly on that of the rainfall. In Sikkim and Bhután this is abnormally copious, and is discharged full on the face of the range. As the chain recedes to the north-west, the greater is the distance to be traversed by the vapour-bearing winds in reaching it, and the more easterly is their direction. For such winds, whether coming from the Bay of Bengal (apparently their principal source) or from the Arabian Sea, turn on reaching the Gangetic valley, and blow more or less parallel to its axis and that of the mountain range. Western Himálayas. Vapour-bearing winds.

The country on either side of the Suláimán range is

Punjab frontier.

characteristically arid. Dry winds from the desert tracts of Persia and Buluchistán predominate throughout the year. The scanty cultivation on the hills is dependent on the winter snows, or the rare showers which reach them from the eastward, or on the supply of the larger local streams. The lower plains would be uninhabitable but for the fertilizing irrigation furnished by the great river that traverses them.

Indus plain.

At the foot of the great Himálayan barrier, and separating it from the more ancient land which now forms the highlands of the peninsula, a broad plain, for the most part alluvial, stretches from sea to sea. On the west, in the dry region, this is occupied partly by the alluvial deposits of the Indus and its tributaries; by the saline swamps of Kachchh (Cutch), by the rolling sands and rocky surface of the desert of Jaisalmír (Jeysulmere) and Bikáner, and partly by the more fertile tracts to the eastward. Over the greater part of this region rain is of rare occurrence; and not infrequently more than a year passes by without a drop falling on the parched surface. On its eastern margin, however, in the neighbourhood of the Aravalli Hills, and again on the Northern Punjab, rain is more frequent, occurring both in the south-west monsoon, and also at the opposite season in the cold weather. As far south as Sírsa and Múltán, the average rainfall does not much exceed 7 inches.

The great Indian desert.

Gangetic plain.

The alluvial plain of the Punjab passes into that of the Gangetic valley without visible interruption. Up or down this plain, at opposite seasons, sweep the monsoon winds, in a direction at right angles to that of their nominal course; and in this way the vapour brought by winds from the Bay of Bengal, is discharged as snow and rain on the peaks and hill-sides of the Western Himálayas. Nearly the whole surface is under cultivation; and it ranks among the most productive as well as the most densely populated regions of the world. The rainfall diminishes from 100 inches at the south-east corner of the Gangetic delta to less than 30 inches at Agra and Delhi, and there is an average difference of from 15 to 25 inches between the northern and southern borders of the plain.

Eastern Bengal.

Eastward from the Bengal delta, two alluvial plains stretch up between the hills that connect the Himálayan system with that of the Burmese peninsula. The first is that of Assam and the Bráhmaputra, long and narrow, bordered on the north by the Himálayas, on the south by the lower plateau of the Gáro, Khásí, and Nágá Hills. The second, or Sylhet and Cáchár

valley, is chiefly occupied by swamps and *jhíls*, and separates the Gáro, Khásí, and Nágá Hills from those of Tipperah and the Lushái country. The climate of both these plains is damp and equable, and the rainfall is prolonged and generally heavy, especially on the southern slopes of the hills. A meteorological peculiarity of some interest has been noticed, more especially at the stations of Síbságar and Silchár, viz. the great range of the diurnal variation of barometric pressure, particularly during the cool months of the year. It is the more striking, since at Rúrki, Lahore, and other stations near the foot of the Himálayas, this range is less than on the open plains.

Central table-land.

The highlands of the peninsula are cut off from the Himálayan ranges by the Indo-Gangetic plain. They are divided into two unequal parts, by an almost continuous chain of hills, loosely known as the Sátpura range, running across the country from west-by-south to east-by-north, just south of the Tropic of Cancer. This chain may be regarded as a single feature, forming the principal watershed of the peninsula. The waters to the north of it drain chiefly into the Narbada (Nerbudda) and the Ganges; those to the south, into the Tápti, the Godávari, the Mahánadi, and smaller streams. In a meteorological point of view, this central chain of hills is of much importance. Acting together with the two parallel valleys of the Narbada (Nerbudda) and Tápti (Taptee), which drain the flanks of its western half, it gives a more decided easterly and westerly direction to the winds of this part of India, and condenses a tolerably copious rainfall during the south-west monsoon.

Sátpura range.

Separated from this chain by the valley of the Narbada on the west, and that of the Son on the east, the plateau of Málwá and Baghelkhand occupies the space intervening between these valleys and the Gangetic plain. On the western edge of the plateau are the ARAVALLI Hills, which run from near Ahmedábád up to the neighbourhood of Delhi, and include one hill, Mount Abu, over 5000 feet in height. This range exerts an important influence on the direction of the wind, and also on the rainfall. At Ajmere, an old-established meteorological station at the eastern foot of the range, the wind is predominantly south-west. Both here and at Mount Abu the south-west monsoon rains are a regular phenomenon; which can hardly be said of the region of scanty and uncertain rainfall which extends from the western foot of the range and merges in the Bikáner desert.

Málwá plateau.

Aravalli range.

Southern plateau.

The peninsula south of the Sátpura range consists chiefly of the triangular plateau of the Deccan, terminating abruptly on the west in the Sahyádri range (Western Gháts), and shelving to the east (Eastern Gháts). This plateau is swept by the south-west monsoon after it has surmounted the western barrier of the Gháts. The rainfall is consequently light at Poona and places similarly situated under the lee of the range, and but moderate over the more easterly parts of the plateau. The rains, however, are prolonged to the north of the Sátpuras three or four weeks later than in Southern India, since they are brought there by the easterly winds which blow from the Bay of Bengal in October and the early part of November; when the re-curved southerly wind ceases to blow up the Gangetic valley, and sets towards the Karnatic. This was formerly thought to be the north-east monsoon, and is still so spoken of by some writers; but the rainy wind is really a diversion of the south-west monsoon.

Anamalai Hills.

At the junction of the Eastern and Western Gháts rises the bold triangular plateau of the Nílgiris, and to the south of them come the Anamalais, Palnis (Pulneys), and Travancore Hills. These ranges are separated from the Nílgiris by a broad depression or pass known as the Pálghát gap, some 25 miles wide; the highest point of which is about 1500 feet above the sea. This gap affords a passage to the winds, which elsewhere are barred by the hills of the Ghát chain. The country to the east of the gap receives the rainfall of the south-west monsoon; and during the north-east monsoon, ships passing Beypur meet with a stronger wind from the land than is felt elsewhere on the Malabar coast. According to Captain Newbold, this gap 'affords an outlet to those furious storms from the eastward which sweep the Bay of Bengal, and, after traversing the peninsula, burst forth through it to the neighbouring sea.'

Southern coast-strips.

In the coast-strip of low country which fringes the peninsula below the Gháts, the rainfall is heavy, the climate warm and damp, the vegetation dense and tropical. The steep slopes of the Gháts, where they have not been artificially cleared, are also thickly clothed with forest.

Meteorology of Ceylon.

Ceylon should, for meteorological purposes, be included in our survey. The country both south and west of the hills which occupy the south centre of the island is very rugged down to the coast. The rainfall is here frequent and heavy; and the temperature being high and equable, the vegetation is dense and very luxuriant, such as is characteristic

Rainy south-west region.

of islands in tropical seas, and also of the coast of Travancore. The plains on the east coast are drier, and both in climate and vegetation bear much resemblance to those of the Karnatic. When the south-west monsoon is blowing in May and June, and discharging torrents of rain on the forest-clad spurs and slopes that face to windward, the contrast presented by the eastward face of the same hills is very striking, and the two phases of climate are sharply demarcated. Newara Eliya (7000 feet), day after day, and even week after week, lies under a dense canopy of cloud, which shrouds all the higher peaks, and pours down in almost incessant rain. But let the traveller leave the station by the Badulla road, and cross over the main range at a distance of two or three miles from Newara Eliya. As he begins the descent towards Wilson's bungalow, he emerges on a panorama of the grassy downs of the lower hills, bathed in dazzling sunshine; while on the ridge above he sees the cloud-masses ever rolling across from the west, and dissolving away in the drier air to leeward. Hence the east and west coasts of the island are as strongly contrasted in climate as those of the southern extremity of the Indian peninsula.

Drier east coast.

The contrast.

In British Burma, the western face of the Arakan Yoma hills, like that of the Indian Western Gháts, is exposed to the full force of the south-west monsoon, and receives a very heavy rainfall. At Sandoway, this amounts to an annual mean of 218 inches. It diminishes to the northwards; but even at Chittagong, it amounts to 106 inches annually.

British Burma.

The country around Ava, as well as the hill country of North Burma, is the seat of occasional severe earthquakes, one of which destroyed Ava city in 1839. The general meridianal direction of the ranges and valleys determines the direction of the prevailing surface winds; subject, however, to many local modifications. But it would appear, from Dr. Anderson's observations of the movement of the upper clouds, that throughout the year there is, with but slight interruption, a steady upper current from the south-west, such as has been already noticed over the Himálayas. The rainfall in the lower part of the Irawadi valley, viz. the delta and the neighbouring part of the province of Pegu, is very heavy, about 190 inches; the climate is warm and equable at all seasons. But higher up the valley, and especially north of the Pegu frontier, the country is drier, and is characterized by a less luxuriant vegetation, and by a retarded and more scanty rainfall of about 56 inches.

Upper Burma.

Observatories.

Observatories. — Meteorological observatories have been established at 109 stations in India (including British Burma and the Andamans). These observatories are situated at all elevations, from the highest, LEH (11,538 feet above mean sea-level) and CHAKRATA (7051 feet), to NEGAPATAM (15 feet) and SAGAR ISLAND, the lowest, which is only 6 feet above mean sea-level.

Observations.

Observations.—The observations taken at the meteorological stations record—(1) temperature of solar and of nocturnal radiation, (2) the air temperature, (3) atmospheric pressure, (4) direction and velocity of the wind, (5) humidity, (6) cloud proportion, and (7) rainfall. For full information on each of these subjects, I refer the reader to the valuable and deeply interesting reports of Mr. F. Blanford and Mr. Eliot, printed at the Government Press, Calcutta, and available to all inquirers at the India Office, London.

Solar radiation.

Solar Radiation. — Although, theoretically, differences in the height above ground of the registering thermometer produce little difference in the amount of radiation from the ground, the nature of the surface forms an important feature, the action of which differs very considerably in different parts of India, and interferes with an exact comparison of results obtained from different stations. Thus, the radiation from the parched, heated, and bare surface of the soil in the North-Western Provinces in May, must be considerably greater than from the moist, grass-covered surface of the soil at the coast stations of Bengal and Western India in the same month.

Returns.

The following figures are obtained from Bengal stations where the instruments are believed to be accurate and comparable. The yearly average maximum equilibrium temperatures of compared sun thermometers *in vacuo*, varied in these stations from 121·5° F. at Dárjíling (much the lowest average) and 131·3° at Goalpára (the next lowest), to 145·6° F. at Bardwán and 147·4° at Cuttack. The excess of the above over the corresponding maximum shade temperatures was:—at Dárjíling, 59·1°; at Goalpára, 48·4°; at Bardwán, 57°; and at Cuttack, 55·8°.

Temperature of the air.

Mean yearly temperatures.

Temperature of the Air.—From the average annual mean temperatures of 83 stations (derived from the means of three or more years), the following figures are taken. In the following four stations in this list, the average mean yearly temperature was over 82° F.:—Trichinopoli, 82·8°; Vizagapatam, 82·7°; Madras, 82·4°; and Madura, 82·2°. All of these stations are in the Madras Presidency. The next highest

means are returned by Negapatam (also in Madras), 81·9°; Cuttack and Port Blair, each 80·5°; False Point, 80·2°; Goa, 79·9°; Cochin, 79·8°; Ságar Island, 79·5°; Deesa, 79·4°; and Calcutta, 79·2°. The mean annual temperature of Bombay is 78·8° F., so that it is the coolest of the three Presidency towns. The lowest means are obtained at the hill stations of Dárjíling, 53·9° F.; Simla, 54·4°; Murree, 55·8°; and Chakráta, 56·1° F. Between these and the next coolest stations is a great gap, Rániklhet following with 60·4°, Pachmarhi with 68·7°, and Ráwal Pindi with a yearly mean of 69·4° F. The highest mean monthly temperatures given are:—95° at Múltán, in June; 94·3° at Delhi, in June; 94·1° at Jhánsí, in May; 93·6° at Agra, in June. The lowest monthly means are returned by the four coldest hill stations mentioned above, the figures being:—Murree—January 37·7°, February 39·4°; Simla—January 39·6°, February 41·1°; Chakráta—January 40·8°, February 42·9°; Dárjíling—January 40·7°, February 43·2° F. The mean temperature at Leh in January is 17·6°, and in December 24·4° F.

Hill stations.

Monthly temperatures.

Atmospheric Pressure.—The Meteorological Report for 1877 contains a table showing the annual mean pressure at 72 stations, corrected (except in the case of Madras) to the Calcutta standard, which reads 0·011 inch higher than that of Kew. From that table the following figures are obtained. The mean yearly pressure in inches at the highest stations is:—23·274 at Chakráta, 23·371 at Dárjíling, 24·058 at Rániklhet, 26·416 at Pachmarhi, and 26·932 at Bangalore. The greatest annual mean pressures returned are:—29·862 at Negapatam, 29·856 at Madras, 29·822 at Bombay, and 29·821 at False Point. These pressures are not reduced to the level of the sea.

Atmospheric pressure.

Wind.—The general directions of the wind in different parts of the peninsula have already been noticed in the introductory portion of this section describing the meteorological geography of the country.

Wind.

Humidity.—The humidity figures given in the Report for 1877 are, according to Mr. Eliot, the Officiating Meteorological Reporter to the Government of India, not generally intercomparable, as the mean relative humidity is deduced from a varying number of daily observations.

Humidity.

Cloud Proportion.—The Report for 1877 gives the averages of estimated cloud proportion for 67 stations in India, an overcast sky being represented by 10 and a clear sky by 0. Some of the extreme figures follow. The average annual

Cloud proportion.

proportion of clouded sky is represented at Síbságar by 7·59; at Dárjíling by 6·45; at Trichinopoli by 6·10; at Coimbatore by 5·36; at Salem by 5·29. The lowest proportions recorded are:—for Jhánsí, 1·48; for Múltán, 1·79; Derá Ismáil Khán, 2·13; Ságar (Saugor), in the Central Provinces, 2·15.

Rainfall.

Rainfall.—The average annual rainfall at 306 stations is recorded in the Meteorological Report for 1877, from which the following figures have been obtained.

The Punjab.

In the Punjab, the highest average fall (123·21 inches) is at Dharmsála, which is situated on the face of the hills, and exposed to the full force of the monsoon; the next highest recorded is little more than half that amount, or 68·61 inches at Simla. The lowest average falls in the Punjab are:—6·16 inches at Muzaffargarh, 6·93 at Múltán, 7·35 at Derá Ghází Khán, and 8·23 at Derá Ismáil Khán. All these stations are protected by the Suláimán range from the monsoon.

Rájputána and Central India.

In Rájputána and Central India the minimum is 20·27 inches at Jáipur (Jeypore), and the maximum, 60·85 at Mount Abu, the highest point in this part of India.

North-Western Provinces.

In the North-Western Provinces the heaviest rainfalls are at Naini Tál (94·17 inches) and Dehra (70·06), both of which lie high; the minimum average fall is 24·32 at Alígarh, the next lowest figures being 26·18 at Muttra (Mathura), 26·46 at Agra, and 26·74 at Etah—all stations on the plains.

Oudh.

In Oudh, the maximum rainfall is at Sultánpur, 46·72 inches; and the minimum at Rái Bareli, 37·99 inches.

Bengal.

The following stations of Bengal have an average rainfall of more than 100 inches:—Jalpáiguri, 122·16; Dárjíling, 119·25; and Kuch Behár, 119·05—all at the base of the hills; Noákhálí, 107·52; and Chittagong, 105·61, both on the north-east coast of the Bay of Bengal. The lowest averages are returned by Chhapra, 37·06 inches; Patná, 38·21; and Gáyá, 41·38. The average rainfall throughout Bengal is 67 inches.

Assam.

Assam possesses in CHERRA POONJEE (Chárá Punji) the station with the largest rainfall in the world. Former returns gave the fall at 368 inches; later and fuller returns at 523 inches. A total fall of 805 inches was reported in 1861, of which 366 were assigned to the single month of July. In 1850, Dr. Hooker registered 30 inches in twenty-four hours, and returned the fall from June to November of that year at 530 inches. In the four days 9th to 12th September 1877, 56·19 inches were registered. The cause of this extraordinary rainfall is noticed in the section on Physical Geography (pp. 133, 134, *ante*).

The following stations in Assam have also a very high average rainfall :—Silchár, 121·07 ; Sylhet, 153·80 ; Dibrugarh, 116·43 ; and Turá, 115·76. The lowest recorded averages in Assam are at Samaguting (52·58 inches) and Gauháti (69·23 inches), both on the northern side of the hills separating Cáchár from Assam.

In the Central Provinces, the highest average falls are at Pachmarhi, 82·20 inches, and at Bálághát, 64·11 ; lowest averages, Khandwa, 32·26, and Bednúr, 41·21 inches. Central Provinces.

In Bombay, three stations on the Gháts are recorded as having an average rainfall of over 250 inches, viz. :—Matherán, 256·75 inches ; Malcolmpet (Mahábleshwar), 252·25 ; and Baura (Fort), 251·80. Next in order come Lanauli, with 159·63 inches ; Honawár, 137·53 ; and Igatpuri, Kárwár, Vingorla, and Ratnagiri, with 118·53, 110·07, 105·94, and 102·31 inches respectively. The lowest average rainfalls recorded in Bombay are :—12·99 inches at Mandargi ; 17·25 at Dhulia ; and 19·93 at Gokak. The average rainfall in Bombay is 67 inches. Bombay.

In Sind, the average rainfall is very low, varying from 16·31 inches at Nagar, and 11·78 at Umarkot, to 5·09 at Shikárpur, and 4·28 at Jacobábád. Sind.

In Madras, the highest averages recorded are :—135·60 inches at Cannanore ; 131·91 at Mangalore ; 125·63 at Tellicherri ; 113·62 at Calicut ; and 112·15 at Cochin—all on the west coast. The lightest falls recorded are :—at Bellary, 16·06 ; Tuticorin (sheltered by the Gháts), 18·50 ; Guti (Gooty), 20·85 ; and Coimbatore, 20·90. All these stations lie low. The average fall at the stations on the east coast is about 41 inches. An average rainfall for Madras Presidency is 44 inches. Madras.

The rainfall along the coast of British Burma is heavy, as might be expected, the following averages being recorded :— Sandoway, 218·58 inches ; Tavoy, 195·47 ; Maulmain, 191·34 ; Akyab, 189·23 ; Khyouk-hpyu, 170·76. The smallest rainfall is at Thayet-myo (51·04) and Prome (56·46), sheltered by the Yoma range. British Burma.

The rainfall at Port Blair, in the Andamans, is also heavy, the average being returned as 116·25 inches. Port Blair.

SUN-SPOT CYCLES.—The results arrived at by the Indian Meteorological Department on the subject of the sun-spot cycles, which have recently been engaging the attention of scientific men, are thus summed up in the Report for 1877 :— Sun-spot cycles.

'The following are the more important inferences that the

meteorology of India in the years 1877 and 1878 appear to suggest, if not to establish. There is a tendency at the minimum sun-spot periods to prolonged excessive pressure over India, to an unusual development of the winter rains, and to the occurrence of abnormally heavy snowfall over the Himálayan region (to a greater extent probably in the Western than the Eastern Himálayas). This appears also to be usually accompanied by a weak south-west monsoon. The characteristics of a weak monsoon are, great irregularity in the distribution of the rainfall over the whole of India, and the occurrence of heavy local rainfalls, which tend, by a law of rainfall and of air-motion, to recur over the same limited areas. The irregularity of rainfall distribution is often shown by persistent and prolonged absence of rain over considerable areas. These areas of drought and famine are partly marked off by nature, depending to a certain extent on the geographical features and position of the district. Thus the rains are more likely to fall below the amount necessary for cultivation in the dry region of the Deccan or in Upper India, than over the Malabar coast area or the Province of Bengal.'

Mammals. WILD ANIMALS.—First among the wild animals of India must be mentioned the lion (Felis leo), known to have been not uncommon within historical times in Hindustán Proper and

Lion. the Punjab. At present, the lion is supposed to be confined to the *Gir*, or rocky hill-desert of Káthiáwár. A peculiar variety is there found, marked by the absence of a mane; but whether this variety deserves to be classed as a distinct species naturalists have not yet determined. The former extent of the lion's range, or the degree to which its presence impressed the imagination, may be inferred from the common personal names, Sinh or Sing, Sher, and Haidar, which all signify 'lion.' Sher, however, is also applied to the tiger.

Tiger. The characteristic beast of prey in India is the tiger (F. tigris), which is found in every part of the country from the slopes of the Himálayas to the Sundarban swamps. Sir Joseph Fayrer, the highest living authority on this subject, believes that 12 feet is the maximum length of the tiger, when measured from nose to tip of tail immediately after death. The advance of cultivation, even more than the incessant attacks of sportsmen, has gradually caused the tiger to become a rare animal in large tracts of country; but it is scarcely probable that he ever will be exterminated from India. The

malarious *tarái* fringing the Himálayas, the uninhabitable swamps of the Gangetic delta, and the wide jungles of the central plateau, are at present the chief home of the tiger. His favourite food appears to be deer, antelope, and wild hog. When these abound, he does not attack domestic cattle.

Indeed, the natives of certain Districts consider the tiger as in some sort their protector, for he saves their crops from destruction by the wild animals on which he feeds. But when once he develops a taste for human blood, then the slaughter he works becomes truly formidable. The confirmed man-eater, which is generally an old beast, disabled from overtaking his usual prey, seems to accumulate his tale of victims in sheer cruelty rather than for food. A single tiger is known to have killed 108 people in the course of three years. Another killed an average of about 80 persons per annum. A third caused 13 villages to be abandoned, and 250 square miles of land to be thrown out of cultivation. A fourth, so lately as 1869, killed 127 people, and stopped a public road for many weeks, until the opportune arrival of an English sportsman, who killed him. Such cases are, of course, exceptional, and generally refer to a period long past, but they explain and justify the superstitious awe with which the tiger is regarded by the natives. The favourite mode of shooting the tiger is from the back of elephants, or from elevated platforms (*máchans*) of boughs in the jungle. In Central India and Bombay, tigers are shot on foot. In Assam they are speared from boats, and in the Himálayas they are said to be ensnared by bird-lime. Rewards are given by Government to native *shikáris* for the heads of tigers, varying in time and place according to the need. In 1877, 819 persons and 16,137 cattle were reported to have been killed by tigers. On the other side of the account, 1579 tigers were destroyed by native hunters, and £3777 paid in rewards; besides the slaughter by English sportsmen.

Man-eating Tiger.

The leopard or panther (F. pardus) is far more common than the tiger in all parts of India, and at least equally destructive to life and property. The greatest length of the leopard is about 7 feet 6 inches. A black variety, as beautiful as it is rare, is sometimes found in the extreme south of the Indian peninsula, and in Java. The cheetah or hunting leopard (Guepardа jubata) must be carefully distinguished from the leopard proper. This animal appears to be a native only of the Deccan, where it is trained for hunting the antelope. In some respects it approaches the dog more nearly than the cat tribe. Its limbs are long, its hair rough, and its claws blunt and only

Leopard.

Cheetah.

partially retractile. The speed with which it bounds upon its prey, when loosed from the cart, exceeds the swiftness of any other mammal. If it misses its first attack, it scarcely ever attempts to follow, but returns to its master. Among other species of the family *Felidæ* found in India may be mentioned the ounce or snow leopard (F. uncia), the clouded tiger (F. macroscelis), the marbled tiger cat (F. marmorata), the jungle cat (F. chaus), and the common viverrine cat (F. viverrina).

Wolf. Wolves (Canis lupus) abound throughout the open country, but are rare in the wooded districts. Their favourite prey is sheep, but they are also said to run down antelopes and hares, or rather catch them by lying in ambush. Instances of their attacking man are not uncommon. In 1827, upwards of 30 children were carried off by wolves in a single *parganá* or fiscal division; and the story of Romulus and Remus has had its counterpart in India within recent times. The Indian wolf has a dingy reddish-white fur, some of the hairs being tipped with black. By some naturalists it is regarded as a distinct species, under the name of *Canis pallipes.* Three distinct varieties, the white, the red, and the black wolf, are found in the Tibetan Himálayas.

Fox. Jackal. The Indian fox (Vulpes bengalensis) is comparatively rare; but the jackal (C. aureus) abounds everywhere, making night hideous by its never-to-be-forgotten yells. The jackal, and not the fox, is usually the animal hunted by the packs of hounds kept by Europeans.

Dog. The wild dog or *dhole* (C. dhola) is found in all the wilder jungles of India, including Assam and British Burma. Its characteristic is that it hunts in packs, sometimes containing 30 dogs, and does not give tongue. When once a pack of wild dogs has put up any animal, whether deer or tiger, that animal's doom is sealed. They do not leave it for days, and finally bring it to bay, or run it down exhausted. These wild dogs have sometimes been half domesticated, and trained to hunt for the use of man. A peculiar variety of wild dog exists in the Karen Hills of Burma, thus described from a specimen in confinement. It was black and white, as hairy as a skye-terrier, and as large as a medium-sized spaniel. It had an invariable habit of digging a hole in the ground, into which it crawled backwards, remaining there all day with only its nose and ferrety eyes visible. Among other dogs of India are the pariah, which is merely a mongrel, run wild and half starved; the poligar dog, an immense creature peculiar to the south;

the greyhound, used for coursing; and the mastiff of Tibet and Bhután.

The striped hyæna (Hyæna striata) is common, being found wherever the wolf is absent. Like the wolf, it is very destructive both to the flocks and to children. Hyæna.

Of bears, the common black or sloth bear (Ursus labiatus) is common throughout India wherever rocky hills and forests occur. It is distinguished by a white horse-shoe mark on its breast. Its food consists of ants, honey, and fruit. When disturbed it will attack man, and it is a dangerous antagonist, for it always strikes at the face. The Himálayan or Tibetan sun-bear (U. tibetanus) is found along the north, from the Punjab to Assam. During the summer it remains high up in the mountains, near the limit of snow, but in the winter it descends to 5000 feet, and even lower. Its congener, the Malayan sun-bear (Helarctos malayanus), is found in British Burma, where also there is a smaller species (H. euryspilus), and a very large animal reported to be as big as the American grizzly. Bear.

The elephant (Elephas indicus) is found in many parts of India, though not in the north-west. Contrary to what might be anticipated from its size and from the habits of its African cousin, the Indian elephant is now, at any rate, an inhabitant, not of the plains, but of the hills; and even on the hills it is usually found among the higher ridges and plateaus, and not in the valleys. From the peninsulá of India the elephant has been gradually exterminated, being only found now in the primæval forests of Coorg, Mysore, and Travancore, and in the Tributary States of Orissa. It still exists in considerable number along the *tarái* or submontane fringe of the Himálayas. The main source of supply at the present time is the confused mass of hills which forms the north-east boundary of British India, from Assam to Burma. Two varieties are there distinguished, the *gunda* or tusker, and the *makna* or *hine*, which has no tusks. The Elephant.

The reports of the height of the elephant, like those of its intelligence, seem to be exaggerated. The maximum is probably 12 feet. If hunted, the elephant must be attacked on foot, and the sport is therefore dangerous, especially as the animal has but few parts vulnerable to a bullet. The regular mode of catching elephants is by means of a *kheda* or gigantic stockade, into which a wild herd is driven, then starved into submission, and tamed by animals already domesticated. The practice of capturing them in pitfalls is discouraged as cruel and wasteful. Elephants now form a Government monopoly Elephant-catching.

throughout India. The shooting of them is prohibited, except when they become dangerous to man or destructive to the crops; and the right of capturing them is only leased out upon conditions. A special law, under the title of 'The Elephants' Preservation Act' (No. VI. of 1879), regulates this licensing system. Whoever kills, captures, or injures an elephant, or attempts to do so, without a licence, is punishable by a fine of 500 rupees for the first offence; and a similar fine, together with six months' imprisonment, for a second offence. In the year 1877-78, a total of 264 elephants were captured in the Province of Assam, yielding to Government a revenue of £3600. In the season of 1873-74 no less than 53 were captured at one time by Mr. Sanderson, the superintendent of the Kheda Department in Mysore, who has made a special study of the Indian elephant, as Sir S. Baker has of the same animal in Ceylon. Though the supply is decreasing, elephants continue to be in great demand. Their chief use is in the timber trade, and for Government transport. They are also bought up by native chiefs at high prices for ostentation.

Elephant Preservation Act.

The Rhinoceros.

Of the rhinoceros, four distinct varieties are enumerated, two with a single, and two with a double horn. The most familiar is the *Rhinoceros unicornis*, commonly found in the Brahmaputra valley, and in the Sundarbans. It has but one horn, and is covered with massive folds of naked skin. It sometimes attains a height of 6 feet; its horn, which is much prized by the natives for medicinal purposes, seldom exceeds 14 inches in length. It frequents swampy, shady spots, and wallows in mud like a pig. The traditional antipathy of the rhinoceros to the elephant seems to be mythical. The Javan rhinoceros (R. sondaicus) is found in the same localities. It also has but one horn, and mainly differs from the foregoing in being smaller, and having less prominent 'shields.' The Sumatran rhinoceros (R. sumatrensis) is found from Chittagong southwards through Burma. It has two horns and a bristly coat. The hairy-eared rhinoceros (R. lasiotis) is only known from a specimen captured at Chittagong; and now (1881) in the Zoological Gardens, London.

The wild Hog.

The wild hog (Sus scrofa, *var.* indica) is well known as affording the most exciting sport in the world—'pig-sticking.' It frequents cultivated localities, and is the most mischievous enemy which the husbandman has to guard against; doing more damage than tigers, leopards, deer, and antelope, all put together. A rare animal, called the pigmy hog (Porculia salviania), exists in the *tarái* of Nepál and Sikkim, and has

been shot in Assam. Its height is only 10 inches, and its weight does not exceed 12 lbs.

The wild ass (Asinus onager) is confined to the sandy deserts of Sind and Kachchh (Cutch), where, from its speed and timidity, it is almost unapproachable. The wild Ass.

Many wild species of the sheep and goat tribe are to be found in the Himálayan ranges. The *Ovis ammon* and *O. poli* are Tibetan rather than Indian species. The *urial* and the *shapu* are kindred species of wild sheep, found respectively in Ladákh and the Suláimán range. The former comes down to 2000 feet above the sea, the latter is never seen at altitudes lower than 12,000 feet. The *barhal*, or blue wild sheep, and the *markhur* and *tahr* (both wild goats) also inhabit the Himálayas. A variety of the ibex is also found there, as well as in the highest ranges of Southern India. The *sarau* (Nemorhædus rubida), allied to the chamois, has a wide range in the mountains of the north, from the Himálayas to Assam and Burma. Sheep and Goats.

The antelope tribe is represented by comparatively few species, as compared with the great number peculiar to Africa. The antelope proper (Antilope bezoartica), the 'black buck' of sportsmen, is very generally distributed. Its special habitat is salt plains, as on the coast-line of Guzerat and Orissa, where herds of 50 does may be seen, accompanied by a single buck. The doe is of a light fawn colour, and has no horns. The colour of the buck is a deep brown-black above, sharply marked off from the white of the belly. His spiral horns, twisted for three or four turns like a corkscrew, often reach the length of 30 inches. The flesh is dry and unsavoury, but is permitted meat for Hindus, even of the Bráhman caste. The four-horned antelope (Tetraceros quadricornis) and the gazelle (Gazella benetti) are also found in India. The *chiru* (Pantholops hodgsoni) is confined to the Himálayan plateaux. Antelopes.

The *nílgái* or blue cow (Portax picta) is also widely distributed, but specially abounds in Hindustán Proper and Guzerat. As with the antelope, the male alone has the dark blue colour. The *nílgái* is held peculiarly sacred by Hindus, from its fancied kinship to the cow, and on this account its destructive inroads upon the crops are tolerated. Nílgái.

The king of the deer tribe is the *sámbhar* or *gerau* (Rusa aristotelis), erroneously called 'elk' by sportsmen. It is found on the forest-clad hills in all parts of the country. It is of a deep-brown colour, with hair on its neck almost like a mane; and it stands nearly 5 feet high, with spreading antlers Deer.

nearly 3 feet in length. Next in size is the swamp deer or *bara-singha*, signifying 'twelve points' (Rucervus duvaucelli), which is common in Lower Bengal and Assam. The *chitál* or spotted deer (Axis maculata) is generally admitted to be the most beautiful inhabitant of the Indian jungles. Other species include the hog deer (Cervus porcinus), the barking deer or muntjac (Cervulus vaginalis), and the mouse deer (Meminna indica). The musk deer (Moschus moschiferus) is confined to Tibet.

The Bison. The ox tribe is represented in India by some of its noblest species. The *gaur* (Bos gaurus), the 'bison' of sportsmen, is found in all the hill jungles of the country, in the Western Gháts, in Central India, in Assam, and in British Burma. This animal sometimes attains the height of 20 hands (close on 7 feet), measuring from the hump above the shoulder. Its short curved horns and skull are enormously massive. Its colour is dark chestnut, or coffee-brown. From the difficult nature of its habitat, and from the ferocity with which it charges an enemy, the pursuit of the bison is no less dangerous and no less exciting than that of the tiger or the elephant. Akin to the *gaur*, though not identical, are the *gayál* or *mithún* (B. frontalis), confined to the hills of the north-east frontier, where it is domesticated for sacrificial purposes by the aboriginal tribes; and the *tsine* or *banting* (B. sondaicus), found in Burma.

The Buffalo. The wild buffalo (Bubalus arni) differs from the tame buffalo only in being larger and more fierce. The finest specimens come from Assam and Burma. The horns of the bull are thicker than those of the cow, but the horns of the cow are larger. A head has been known to measure 13 feet 6 inches in circumference, and 6 feet 6 inches between the tips. The greatest height is 6 feet. The colour is a slaty black; the hide is immensely thick, with scanty hairs. Alone perhaps of all wild animals in India, the buffalo will charge unprovoked. Even tame buffaloes seem to have an inveterate dislike to Europeans.

Rat tribe. The rat and mouse family is only too numerous. Conspicuous in it is the loathsome bandicoot (Mus bandicota), which sometimes measures 2 feet in length, including its tail, and weighs 3 lbs. It burrows under houses, and is very destructive to plants, fruit, and even poultry. More interesting is the tree rat (M. arboreus), a native of Bengal, about 7 inches long, which makes its nest in cocoa-nut palms and bamboos. The voles or field mice (genus Arvicola) occasionally multiply so exceedingly as to seriously diminish the out-turn of the

local harvest, and to require special measures for their destruction.

The ornithology of India, although it is not considered so rich in specimens of gorgeous and variegated plumage as that of other tropical regions, contains many splendid and curious varieties. Some are clothed in nature's gay attire, others distinguished by strength, size, and fierceness. The parrot tribe is the most remarkable for beauty. So various are the species, that I do not attempt even to enumerate them, but refer for details to the scientific works on the subject.[1] Among birds of prey, four vultures are found, including the common scavengers (Gyps indicus and G. bengalensis). The eagles comprise many species, but none to surpass the golden eagle of Europe. Of falcons, there are the peregrine (F. peregrinus), the *shain* (F. peregrinator), and the *lagar* (F. jugger), which are all trained by the natives for hawking; of hawks, the *shikara* (Astur badius), the sparrow hawk (Accipiter nisus), and the crested goshawk (Astur trivirgatus). Kingfishers of various kinds, and herons are sought for their plumage. No bird is more popular with natives than the *maina* (Acridotheres tristis), a member of the starling family, which lives contentedly in a cage, and can be taught to pronounce words, especially the name of the god Krishna.

Birds.

Birds of prey.

Waterfowl are especially numerous. Of game-birds, the floriken (Sypheotides auritus) is valued as much for its rarity as for the delicacy of its flesh. Snipe (Gallinago scolopacina) abound at certain seasons, in such numbers that one gun has been known to make a bag of 100 brace in a day. Pigeons, partridges, quail, plover, duck, teal, sheldrake, widgeon—all of many varieties—complete the list of small game. The red jungle fowl (Gallus ferruginesis), supposed to be the ancestor of our own poultry, is not good eating; and the same may be said of the peacock (Pavo cristatus), except when young. The pheasant does not occur in India Proper; but a white variety is found in Burma, and several beautiful species (conspicuously the *minaul*) abound in the Himálayas.

Game birds.

The serpent tribe in India is numerous; they swarm in the gardens, and intrude into the dwellings of the inhabitants, especially during the rainy season. Most are comparatively harmless, but the bite of others is speedily fatal.[2] The cobra

Reptiles.

[1] Especially those of Jerdon and Gould.

[2] Sir Joseph Fayrer's *Thanatophidia* is the standard work on Indian snakes.

The 'cobra.'

di capello—the name given to it by the Portuguese, from the appearance of a hood which it produces by the expanded skin about the neck—is the most dreaded (Naga tripudians). It seldom exceeds 3 or 4 feet in length, and is about an inch and a quarter thick, with a small head, covered on the forepart with large smooth scales; it is of a pale brown colour above, and the belly is of a bluish-white tinged with pale brown or yellow. The Russelian snake (Daboia russellii), about 4 feet in length, is of a pale yellowish-brown, beautifully variegated with large oval spots of deep brown, with a white edging. Its bite is extremely fatal. Itinerant showmen carry about these serpents, and cause them to assume a dancing motion for the amusement of the spectators. They also give out that they render snakes harmless by the use of charms or music—in reality, by extracting the venomous fangs. But, judging from the frequent accidents which occur, they sometimes seem to dispense with this precaution. All the salt-water snakes in India are poisonous, while the fresh-water forms are innocuous.

Death from snake-bite.

Sir Joseph Fayrer has demonstrated that none of the reputed antidotes will cure the bite of the cobra, if the snake is full-grown, and if its poison fang is full and be not interfered with by clothing. The most hopeful remedy in all cases of snake-bite is the injection of ammonia. The loss of life from this cause in India is painful to contemplate. But the extermination of snakes is attended with great difficulty, from the great number of the species, the character of the country, the rapid undergrowth of jungle, and the scruples of the people. Something, however, is being effected by the offer of rewards. In 1877, a total of 16,777 persons are reported to have been killed by snakes, as compared with only 819 by tigers. In the same year, rewards to the amount of £811 were given for the destruction of 127,295 snakes.

Crocodile.

The other reptiles include two varieties of crocodile (C. porosus and C. biporcatus) and the gavial (Gavialis gangeticus). Scorpions also abound.

Fishes.

All the waters of India—the sea, the rivers, and the tanks—swarm with a great variety of fishes,[1] which are caught in every conceivable way, and furnish a considerable proportion of the food of the poorer classes. They are eaten fresh, or as nearly

[1] The latest standard works on Indian fishes and their economic aspects are the Reports and official volume by Dr. Francis Day, late Inspector-General of Fisheries to the Government of India; available to all inquirers, at the India Office, London.

fresh as may be; for the art of curing them is not generally practised, owing to the exigencies of the salt monopoly. In Burma, the favourite relish of *nga-pi* is prepared from fish; and at Goálandá, at the junction of the Brahmaputra with the Ganges, an important station has recently been established for salting fish in bond. The indiscriminate slaughter of fry, and the obstacles opposed by irrigation dams to breeding fish, are said to be causing a sensible diminution in the supply in certain rivers. Measures of conservancy have been suggested; but their execution is attended with great difficulty, owing to the habits and the necessities of the poorer population. Among Indian fishes, the *Cyprinidæ* or carp family and the *Siluridæ* or cat-fishes are best represented. From the angler's point of view, by far the finest fish is the *mahsir*, found in all hill streams, whether in Assam, the Punjab, or the south. One has been caught weighing 60 lbs., which gave play for more than seven hours. Though called the salmon of India, the *mahsir* is really a species of barbel. One of the richest and most delicious of Indian fishes is the *hilsa*, which tastes and looks like a sort of fat white salmon. It is caught in immense quantities in the rivers of the Bengal delta, and forms a staple article of food in Calcutta. The Bombay market is equally well supplied by a variety of delicate fishes. But the enhanced price of this important article of native diet throughout the country, the decreased supply, and the ever-increasing fineness of the meshes of the nets employed in catching the fry, are matters of grave concern alike to the Government and to the poorer classes of the population.

Dolphin.

In this connection may be mentioned the *susu* or Gangetic dolphin (Platanista gangetica), which is often erroneously called a porpoise. Both the structure and habits of this animal are very singular. It measures from 6 to 12 feet in length, and in colour is sooty-black. Its head is globular, with a long, narrow, spoon-shaped snout. Its eyes are rudimentary, like those of the mole; and its ear-orifices are no bigger than pin-holes. Its dentition, also, is altogether abnormal. It frequents the Ganges and Indus from their mouths right up to their tributaries within the hills. A specimen has been taken at least 1000 miles above Calcutta. Ordinarily its movements are slow, for it wallows in the muddy bed of the river, and only at intervals comes to the surface to blow. The *susu* belongs to the order *Cetacea;* and inquiries have recently been directed to the point whether its blubber might not be utilized in commerce.

Insects.

The insect tribes in India may be truly said to be innumerable; nor has anything like a complete classification been given of them in the most scientific treatises. The heat and the rains give incredible activity to noxious or troublesome insects, and to others of a more showy class, whose large wings surpass in brilliancy the most splendid colours of art. Stinging musquitoes are innumerable, with moths and ants of the most destructive habits, and other insects equally noxious and disagreeable. Amongst those which are useful are the bee, the silk-worm, and the insect that produces lac. Clouds of locusts occasionally appear, which leave no trace of green behind them, and give the country over which they pass the appearance of a desert. Dr. Buchanan saw a mass of these insects in his journey from Madras to the Mysore territory, about 3 miles in length, like a long narrow red cloud near the horizon, and making a noise somewhat resembling that of a cataract. Their size was about that of a man's finger, and their colour reddish. They are swept north by the wind till they strike upon the outer ranges of the Himálayas.

Locusts.

Indian flora.

FLORA.[1]—Unlike other large geographical areas, India is remarkable for having no distinctive botanical features peculiar to itself. It differs conspicuously in this respect from such countries as Australia or South Africa. Its vegetation is in point of fact of a composite character, and is constituted by the meeting and blending of the various floras adjoining,—of those of Persia and the south-eastern Mediterranean area to the north-west, of Siberia to the north, of China to the east, and of Malaya to the south-east. Space does not admit of a minute discussion of the local features peculiar to separate districts, but regarded broadly, four tolerably distinct types present themselves; namely, the Himálayan, the North-Western, the Assamese or Malayan, and the Western India type.

Upper Himálayas.

The upper levels of the Himálayas slope northwards

[1] For a general sketch of the flora of India, recourse must still be had to the introductory essay to the *Flora Indica*, published by Hooker & Thomson in 1855. The *Flora of British India*, the preparation of which is (1881) in progress at Kew, will comprise brief descriptions of all the species known to science up to the date of publication. But although no complete analysis of the vegetation is yet possible, its general features are now tolerably well understood. For the following paragraphs on the flora, written by Mr. W. T. T. Dyer of Kew, I am indebted to the courtesy of Messrs. A. & C. Black, publishers of the *Encyclopædia Britannica*.

gradually to the Tibetan uplands, over which the Siberian temperate vegetation ranges. This is part of the great temperate flora which, with locally individualized species, but often with identical genera, extends over the whole of the temperate zone of the northern hemisphere. In the Western Himálayas, this upland flora is marked by a strong admixture of European species, such as the columbine (Aquilegia) and hawthorn (Cratœgus oxyacantha). These disappear rapidly eastward, and are scarcely found beyond Kumáun.

Lower Himálayas.

The base of the Himálayas is occupied by a narrow belt forming an extreme north-western extension of the Malayan type described below. Above that, there is a rich temperate flora which in the eastern chain may be regarded as forming an extension of that of Northern China, gradually assuming westwards more and more of a European type. *Magnolia*, *Aucuba*, *Abelia*, and *Skimmia* may be mentioned as examples of Chinese genera found in the Eastern Himálayas, and the tea-tree grows wild in Assam. The same coniferous trees are common to both parts of the range. *Pinus longifolia* extends to the Hindu-Kush; *P. excelsa* is found universally except in Sikkim, and has its European analogue in *P. Peuce*, found in the mountains of Greece. *Abies smithiana* extends into Afghánistán; *Abies webbiana* forms dense forests at altitudes of 8000 to 12,000 feet, and ranges from Bhután to Kashmír; several junipers and the common yew (Taxus baccata) also occur. The deodar (Cedrus deodara), which is indigenous to the mountains of Afghánistán and the north-west Himálayas, is nearly allied to the Atlantic cedar and to the cedar of Lebanon, a variety of which has recently been found in Cyprus. Another instance of the connection of the Western Himálayan flora with that of Europe is the holm oak (Quercus ilex), so characteristic of the Mediterranean region.

North-west.

The north-western area is best marked in Sind and the Punjab, where the climate is very dry (rainfall under 15 inches), and where the soil, though fertile, is wholly dependent on irrigation for its cultivation. The flora is poor in number of species, and is essentially identical with that of Persia, Southern Arabia, and Egypt. The low-scattered jungle contains such characteristic species as *Capparis aphylla*, *Acacia arabica* (babúl), *Populus euphratica* (the 'willows' of Ps. cxxxvii. 2), *Salvadora persica* (erroneously identified by Royle with the mustard of Matt. xiii. 31), tamarisk, *Zizyphus*, *Lotus*, etc. More than nine-tenths of the Sind vegetation is estimated to be indigenous to Africa. The

Sind.

dry flora extends somewhat in a south-east direction, and then blends insensibly with that of the western peninsula; some species representing it are found in the upper Gangetic plain, and a few are widely distributed in dry parts of the country.

Assam and Malayan peninsula.

This area is described by Sir Joseph Hooker as comprising 'the flora of the perennially humid regions of India, as of the whole Malayan peninsula, the upper Assam valley, the Khásí Mountains, the forests of the base of the Himálayas from the Brahmaputra to Nepal, of the Malabar coast, and of Ceylon.' It is not, of course, intended that over this wide and disjointed area there is an actual identity of species; but the affinities and general agreement of forms are sufficiently close to leave no doubt that they belong essentially to one and the same flora. A few illustrations must suffice:—Pitcher-plants (Nepenthes), so richly developed in Borneo, occur at Singapore, on the Khásí Mountains, and in Ceylon, while they are absent from the western peninsula; wood-oil trees (Dipterocarpeæ), which abound in the forests of the Malayan archipelago, are well represented by species individualized by isolation in the Malayan peninsula, Ceylon, and Southern India; the gamboge of Singapore is scarcely distinguishable botanically from the Ceylon species; rubber-yielding trees are characteristic, such are the climbing *Apocynaceæ* found in the Malayan peninsula and Borneo, and the well-known *Ficus elastica*, indigenous to Assam and Java; numerous palms and several species of *Cycas* also distinguish this flora from that of the western peninsula. Teak (Tectona grandis), which is indigenous to the Malayan archipelago, is native to both peninsulas as far as 25° N. lat., and is more tolerant of a dry climate than most of its associates.

Western India.

This Western India type is difficult to characterise, and is intermediate between the two just preceding. It occupies a comparatively dry area, with a rainfall under 75 inches. In respect to positive affinities, Sir Joseph Hooker has pointed out some relations with the flora of tropical Africa as evidenced by the prevalence of such genera as *Grewia* and *Impatiens*, and the absence, common to both countries, of oaks and pines which abound in the Malayan archipelago. The annual vegetation which springs up in the rainy season includes numerous genera, such as *Sida* and *Indigofera*, which are largely represented both in Africa and Hindustán. Palms also in both countries are scanty, the most notable in Southern India being the wild date (Phœnix sylvestris); Borassus and the cocoa-nut

are cultivated. The forests, although occasionally very dense, as in the Western Gháts, are usually drier and more open than those of the Malayan type, and are often scrubby. The most important timber-trees are the toon (Cedrela toona), *sál* (Shorea robusta), the present area of which forms two belts separated by the Gangetic plain, satin wood (Chloroxylon swietenia), common in the drier parts of the peninsula, sandal-wood, especially characteristic of Mysore, iron-wood (Mesua ferrea), and teak, which has already been alluded to.

Five sources of health returns.

THE VITAL STATISTICS OF INDIA[1] are derived from five chief sources. Of these, the first or European army consists of foreigners under special medical conditions, and subject to the disturbing influence of 'invaliding.' The second, or native army; the third, or jail population; and the fourth, or police; are all composed of natives, but of natives under special conditions as regards food, discipline, or labour. It is dangerous to generalize from returns thus obtained, with regard to the

[1] The literature of Indian health statistics and medical aid may be divided into eight chief classes:—(1) Separate treatises by a series of medical observers, dating from the latter part of the 18th century and continuing up to the present time. (2) Official special reports of the Medical Boards of Bengal, Madras, and Bombay on the great outbreak of cholera in 1817; the Medico-Topographical Reports (1825-40) of the chief stations of the Madras Presidency, by the Medical Board of that Presidency. (3) The Transactions of the Medical Physical Society of Calcutta (1823-39), and of Bombay (1837-76); the Indian Annals of Medical Science (Calcutta) (from 1853-80); other medical journals at different periods in the three Presidencies. (4) Reports on the Medical Education of the Natives of India, commencing with vernacular medical schools in Calcutta and Bombay (1820-30), developing (1835-57) into the medical colleges of Bengal, Madras, and Bombay, and extending into medical schools at Haidarábád (Deccan), Nágpur, Agra, Lahore, Balrampur (Oudh), Patná, Dacca, Poona, Ahmedábád. (5) Reports on Vital Statistics by the various Medical Boards, Medical Departments, and Inspectors-General of Hospitals; since 1827 these assume a prominent place. (6) The Annual Reports of the Sanitary Commissioner with the Government of India, since 1874, and of the Sanitary Commissioners to the local Governments; the Annual Reports of the Inspectors-General of Jails, of the Inspectors-General of Police, and of the health officers to municipal bodies in the various Presidencies and Provinces. (7) Reports by special Committees or Commissions, such as those on the Bardwán fever, on the cattle-plague in Bengal, the Orissa famine of 1866, the Madras famine of 1878, etc. (8) Annual Reports of the public hospitals, dispensaries, and other medical charities. I have been unable to test all the dates in this footnote; but reproduce some of them, unverified, from a memorandum supplied to me by Dr. Morehead, formerly of Bombay.

health statistics of the ordinary population of India. For that population, however, a system of registration exists, and this system forms the fifth source of our data on the subject.

Registration of general population. In some Provinces, registration is carried out with some degree of efficiency. But the natives shrink from publicity touching the details of their life. They could only be forced to give uniform and absolutely trustworthy returns of births, deaths, marriages, sex, and age by a stringent legislation, and a costly administrative mechanism, from which the Government wisely abstains. In municipalities, however, registration furnishes a fairly accurate account of the vital statistics of the urban population. For the rural Districts, special areas have in some Provinces been selected for statistical supervision.

Why untrustworthy.

The Census. The Census operations, conducted under special legislation, will furnish a general picture of the Indian people every ten years. But only one Census has yet been taken, that of 1871; and although the second Census is now in progress, the results will not be known in time to be made use of in this work.

Sources of error. In treating of the public health of India, therefore, three points must always be borne in mind. The data are obtained either, first, from limited classes under special medical conditions; or second, from limited areas under special statistical supervision; or third, from a general system of registration spread over the whole country, but which has hitherto failed to yield trustworthy results. General averages, struck for the entire population, from such sources can only be accepted as estimates based upon the best information at present available.

Death-rate in India. Subject to the above remarks, it may be stated that the evidence goes to show an annual death-rate of 32·57 per thousand in India. During the famine of 1877-78, the death-rate in Madras was ascertained to be equal to an annual rate of 53·2 per thousand. In 1877, the death-rate among the European troops in India was 12·71 per thousand, being the lowest recorded; in the native army, 13·38 per thousand; in the public jails, 61·95 per thousand, rising to 176 per thousand in the Madras prisons, which were flooded by the famine-stricken population. The returns of births, as given hereafter for each Province, are too untrustworthy to allow of an attempt to calculate the birth-rate for the whole country. The average duration of life in India is, on slender foundation, estimated at $30\frac{3}{4}$ years. Instead of attempting generalizations, which, although interesting to the speculative statist, might mislead the actuary and be perverted into an unsound basis for induction, I shall confine myself to the returns as furnished for the separate

Average duration of life.

Provinces; together with the health statistics of the European troops, the native army, and the jail population. The following paragraphs are condensed from the Report of the Sanitary Commissioner with the Government of India, for 1877.

In Bengal, the system of collecting statistics over selected areas has been abolished, and an attempt is being made to obtain returns equally from the whole Province. The registration of deaths in 1877 showed a ratio of 17·96 per *mille* (varying in different Districts from 36 down to 8), which, according to the Sanitary Commissioner, 'must be very much under the truth.' The mortality in towns (where the registration is less incomplete) is returned at 32·49, compared with 17·39 in the rural circles. Of the total death-rate, 20·24 was among males, and only 15·69 among females, 'a discrepancy which must be due in the main to defective registration.' The registered number of deaths in 1876 was 16·41, and in 1875, 10·01 per *mille*. The following figures show the causes of the deaths registered in 1877:—Cholera, 2·58 per *mille*; small-pox, 0·13; fevers, 11·85; bowel complaints, 0·98; injuries, 0·34; all other causes, 2·05 per *mille*. The birth-rate, which averaged 10·20 for the whole Province, varied, according to the returns, from 35 in Patná to only 6 in Bardwán and Bákarganj Districts. The male births are returned as exceeding the female births in the proportion of 118 to 100. Excess of births over deaths in Bengal Presidency in 1877, 0·07 per thousand of the population. An Act, passed in 1873, for the compulsory registration of births and deaths was in force in 92 towns of Bengal in 1877.

Vital statistics of Bengal.

In the Madras Presidency, both births and deaths were much affected in 1877 by the famine which desolated that part of the country, and registration was conducted under special difficulties. Though many defects are consequently apparent, the Sanitary Commissioner is of opinion 'that the relative intensity of the famine in different circles is fairly represented by the mortuary registration.' The registered death-rate was 53·2 per *mille*; and in Madras city the rate in 1877 was 116·7 per thousand (*see* article MADRAS PRESIDENCY, vol. vi. pp. 137, 138). Among males, the ratio is given as 58·4, and among females 48·06, 'which points to imperfections in the record of female deaths.' The following figures show the causes under which the deaths of 1877 in Madras were classified in the Sanitary Commissioner's Report:—Cholera, 12·2 per *mille*; small-pox, 3·02; fevers, 16·06; bowel complaints, 4·5; injuries, 0·5; all other causes, 16·8 per *mille*.

Vital statistics of Madras.

The number of registered deaths in 1876 was 23·34, and in 1875, 21·1 per *mille.* The famine resulted in a marked reduction in the birth-rate, the ratio for 1877 being only 16·3, or less than that of 1876 by more than 5 per *mille.* For every 100 female births, 107 male births were registered. In the nine Districts where the famine was most severe, the birth-rate was only 12, whereas in the eight where the people suffered less the rate was 20 per *mille.* Excess of deaths over births in Madras Presidency in 1877, according to the above figures, 36·9 per 1000 of the population. The registration of births and deaths was not compulsory in Madras in 1877.

Vital statistics of Bombay.

In the Bombay Presidency, famine affected the death-rate in 1877, and the year was also more than usually unhealthy, cholera and small-pox being both epidemic. The mortality, according to the returns, was at the rate of 38·76 per *mille*, varying in different Districts from a maximum of 101 to a minimum of only 8. The deaths among males were returned at 41·32, and among females at 36·01 per 1000. In the famine-stricken Districts the mortality was 55·09, compared with 25·71 per *mille* in 1876. The following figures show the causes of the deaths registered in 1877:—Cholera, 3·53; small-pox, 1·69; fevers, 20·79; bowel complaints, 3·72; injuries, 0·46; all other causes, 8·55 per *mille*. The deaths registered in 1876 were 21·81, and in 1875, 22·47 per 1000. Besides the causes already referred to as affecting the figures for 1877, the Sanitary Commissioner states that increased attention was paid to registration during the year. The birth-rate in the Bombay Presidency in 1877 was 19·26 per *mille* (varying from 29 to 6), or 2·09 per *mille* less than the ratio for 1876—'a result which is for the most part ascribed to the effects of famine; but also, in great measure, to neglect in registration.' For every 100 female births, 111 male births were registered. Excess of deaths over births in Bombay Presidency, 19·54 per 1000 of the population.

North-Western Provinces and Oudh.

The North-Western Provinces and Oudh together returned a death-rate in 1877 of 19·67 per *mille*, varying from 29 to 12. For Oudh alone, the ratio was 17·1; and for the North-Western Provinces alone, 20·6. The mortality in the towns of the amalgamated Province was 29·43, compared with 18·99 in the rural circles; and of the total death-rate, 21·06 was among males, and 18·12 among females. The registered number of deaths in 1876 was 21·94 per *mille*, and in 1875, 19·96. The following figures show the causes of the deaths registered in 1877:—Cholera, 0·74; small-pox, 0·84; fevers, 13·45; bowel

complaints, 1·98; injuries, 0·46; all other causes, 2·20. The registration of births was in 1877 confined to the municipalities in the North-Western Provinces and Oudh, but since then it has been carried on all over the Province. The average birth-rate registered in the municipalities in 1877 was 39·22 per *mille*, varying from 70 at Orai to 14 at Dehra. Excess of births over deaths per 1000 of the population, 10·27.

Vital statistics of the Punjab.

In the Punjab, the death-rate for 1877 is recorded as 20 per *mille*, and the same rate applies to both males and females taken separately. The District average varies from 27 per *mille* in Lahore to 8 in Kohát on the frontier. In the towns, the mean mortality was 33, varying between a maximum of 52 (in the town of Delhi) and a minimum of 12 (in Kohát). The registered number of deaths in the Punjab in 1876 was 28·42, and in 1875, 25·7 per *mille*. The year 1877 was remarkably healthy, and unusually free from epidemics. The following figures show the causes for the deaths registered:—Cholera, 0·001; small-pox, 0·70; fevers, 12·54; bowel complaints, 1·01; injuries, 0·29; all other causes, 5·52 per *mille*. In 1877, births were registered only in the municipal towns of the Punjab, and the results showed a birth-rate of 31·86 per *mille*; number of males to every 100 females, 111. Excess of births over deaths per 1000 of the population, 5.

Vital statistics of the Central Provinces.

In the Central Provinces, the recorded death-rate in 1877 was 23·91 per *mille*, varying from 38 in Mandla to only 18 in Nágpur District. Among males the death-rate was 25·66, and among females, 22·11. In the towns, the ratio was 35·86 per *mille*. The registered number of deaths in the Central Provinces in 1876 was 30·38, and in 1875, 26·32 per *mille*. The following figures show the causes of the deaths recorded in 1877:—Cholera, 0·46; small-pox, 0·37; fevers, 17·70; bowel complaints, 2·01; injuries, 0·48; all other causes, 2·89. Births were in 1877 registered throughout the Central Provinces, the ratio being 39·26 per 1000 of the population; varying from a maximum of 45 in Biláspur to a minimum of 31 in Nágpur. The number of male births recorded was 111 for every 100 female births. Excess of registered births over deaths in the Central Provinces in 1877, 15·35 per 1000 of the population.

Vital statistics of Berar.

In Berar, the Sanitary Commissioner describes the registration as more accurate, and he does not attribute the high death-rate for 1877 (28·1 per *mille*) to exceptional unhealthiness, but rather to more careful registration. In the towns alone the mortality was returned at 31·4 per *mille*. The registered number of deaths in Berar in 1876 was 31·9, and

in 1875, 40·2 per *mille.* The following figures show the causes for the deaths recorded in 1877:—Cholera, 0·4; small-pox, 2·9; fevers, 15·8; bowel complaints, 4·8; injuries, 0·4; all other causes, 3·7 per *mille.* The birth-rate shown by the returns of 1877 was 39·5, varying between 47 in Akola and 35 in Wún District. The number of male births recorded was 109 for every 100 female births. Excess of births over deaths in Berar in 1877, 11·40 per 1000 of the population.

Vital statistics of Assam.

In Assam, the system of registration in 1877 was that formerly in vogue in Bengal, of which this Province until recently formed part. The returns were taken over certain selected areas, and the results were quite untrustworthy. The death-rate, as ascertained from these returns, was only 10·9 per *mille*, varying between a maximum of 29 and a minimum of 5. The registered number of deaths in Assam in 1876 was 9·33, and in 1875, 19·3 per *mille.* The following figures show the causes of the deaths registered in 1877:—Cholera, 2·9 per *mille;* small-pox, 0·3; fevers, 4·9; bowel complaints, 1·5; injuries, 0·2; all other causes, 1 per *mille.* The births recorded in the selected areas were at the rate of 20 per *mille*, 11 being males and 9 females; the ratios varied between 34 and 10. The figures show an excess of deaths over births in Assam in 1877 of 4·9 per 1000 of the population.

British Burma.

In British Burma, registration is declared by the Sanitary Commissioner (1877) to be even more defective than in the worst Provinces of India. The average death-rate, according to the returns, was 17·44 per *mille*, the ratio for males being 18, and for females 16 per 1000. In Myanoung, the deaths were returned at 119, and at Maulmain at less than 13 per *mille.* In the towns the mortality was 34 per *mille*, compared with 15 in the rural circles. The number of deaths registered in British Burma in 1876 was 14·79, and in 1875, 14·08 per *mille.* The following figures show the causes of the deaths recorded in 1877:—Cholera, 2·47; small-pox, 0·41; fevers, 8·85; bowel complaints, 2·34; injuries, 0·18; all other causes, 3·15 per *mille.* The birth returns showed a rate of only 21 per *mille;* 'and this general average,' to use the words of the Report in 1877, 'is made up of such extremes that no reliance can be placed on the figures.' In one place it (the birth-rate) was no less than 115 per 1000, in another it was under 6. The male births registered were 105 for every 100 female births. Excess of births over deaths in British Burma in 1877, 4 per thousand of the population.

After what has been stated in the introductory paragraph of

this section, it is manifest that the figures quoted from the Report of the Sanitary Commissioner with the Government of India are of little or no value for the purpose of establishing the comparative healthiness or unhealthiness of the different portions of the country. To construct a comparative table out of the provincial returns would be misleading, if any attempt were made to use it for actuarial purposes. But tables on the following pages, 638-39, may be interesting as showing the defects and uncertainties of Vital Statistics in India. The wide variations in the birth and death rates for various Districts, usually arise from different degrees of imperfection in the registration.

Health of the European Army.—The sanitary statistics of the army in India are, in every way, more trustworthy than those obtained for the general population; and as they have been regularly collected on a uniform system for a number of years, it is possible to draw valuable inferences. Health of the European Army.

The sanitary history of the European Army during 1877 was more favourable than that of any previous year of which the statistics are on record. The total strength of the European Army in India in 1877 was returned at 57,260 men; the admissions into hospital numbered 71,992 (1257 per 1000 of average strength); daily sick, 3196 (56 per 1000); deaths, 728 (12·71 per 1000). The same ratios for 1876 were:—admissions into hospital, 1361 per 1000; daily sick, 56; and deaths, 15·32 per 1000. The averages for the five years 1871–1875 were as follows:—admissions into hospital, 1394 per 1000; daily sick, 57; deaths, 17·62 per 1000. 'Not only,' writes the Sanitary Commissioner, 'do the results compare favourably with the averages of the five years 1871 to 1875, but, what is deserving of special notice, the admission-rate and death-rate are the lowest which have yet been attained.' General statistics of 1877.

Invaliding reached a minimum in 1876, when the ratio was 38·90 per 1000 of average strength. The figures for the Bengal Presidency separately were even more satisfactory, the mortality being only 11·64 per 1000, much below what it had ever been before. In the Madras Presidency, the mortality was 16·83 per 1000, rather above the ratio for the preceding year. The mortality in the Bombay Presidency was 12·09 per 1000; invaliding in this Presidency was 48·04, a higher figure than had been obtained for seventeen years. Invaliding.

In all three Presidencies, the same diseases formed the ten chief causes of sickness, with slight variations in the order in Ten chief causes of sickness.

[*Sentence continued on p.* 640.

Birth-rate among General Population in Indian Provinces in 1877.

Province.		Population under Registration.	Ratio of Births per 1000 of Population.			Number of Males born to every 100 Females born.	Excess of Births over Deaths per 1000 of Population.	Excess of Deaths over Births per 1000 of Population.
			Maximum for any one District.	Minimum for any one District.	Mean for the Province.			
Bengal Presidency.	Bengal, ...	58,281,453	35	6	18·20	118	·07	...
	North-Western Provinces,* .	2,231,534	70	14	39·22	117	10·27	...
	Punjáb, ...	3,022,071	51	12	31·86	111	5·00	...
	Central Provinces, . .	7,408,074	45	31	39·26	111	15·35	...
	Berar, ...	2,184,945	47	35	39·50	109	11·40	...
	British Burma, . . .	2,934,981	115	5	21·07	105	4·00	...
	Assam, ...	120,821	34	10	20·90	123	...	4·9
Madras Presidency, . . .		29,209,542	36	5	16·30	†107	...	36·9
Bombay Presidency, . . .		16,181,741	29	6	19·26	†111	...	19·54

* Births were not registered in Oudh.

† It should be remembered, as already stated, that the averages in Madras, and in a lesser degree in Bombay, were powerfully influenced by the Famine (1877). The average death-rate in Madras was 23·34 per *mille* in 1876, and 21·81 per *mille* in Bombay in 1876. The birth-rate in 1876 in Madras was 21·6 per *mille;* and in Bombay, 21·35.

Death-rate among General Population in Indian Provinces in 1877.

Province.		Population under Registration.	Area in Square Miles.	Average Population per Square Mile.	Ratio of Deaths per 1000 of Population in Districts.			Death-rate per 1000.	
					Maximum.	Minimum.	Mean.	Male.	Female.
Bengal Presidency.	Bengal, ...	59,993,332	144,614	415	36	8	17·96	20·24	15·69
	North-Western Provinces and Oudh,	42,724,741	104,402	409	29	12	19·67	21·06	18·12
	Punjab, ...	17,487,125	104,975	166	27	8	20·00	20·00	20·00
	Central Provinces, . .	7,408,074	65,162	113	38	18	23·91	25·66	22·11
	Berar, ...	2,184,945	16,227	134	34	20	28·10	*	*
	British Burma, . . .	2,934,981	88,283	33	119	11	17·44	18·47	16·33
	Assam, ...	3,805,364	27,319	131	29	5	10·90	6·30	4·60
Madras Presidency, ...		29,209,542	138,318	222	119	†17	53·20	†58·40	48·06
Bombay Presidency, . . .		16,181,741	124,196	130	101	† 8	38·76	†41·32	36·01

* Not given by Sanitary Commissioner.

† It should be remembered, as already stated, that the averages in Madras, and in a lesser degree in Bombay, were powerfully influenced by the Famine (1877). The average death-rate in Madras was 23·34 per *mille* in 1876, and 21·81 per *mille* in Bombay in 1876. The birth-rate in 1876 in Madras was 21·6 per *mille;* and in Bombay, 21·35.

Sentence continued from p. 637.]
which they occurred. These ten were:—malarial fevers, venereal diseases, wounds and accidents, abscess and ulcer, respiratory diseases, rheumatism, diarrhœa, hepatitis, dysentery, and eye diseases. They are here given in the order of their frequency (1877) in Bengal. Malarial fevers, which stood first in both Bengal and Bombay (408 and 492 admissions per 1000 respectively), were replaced at the top of the list in Madras by venereal diseases (231 admissions per 1000); respiratory diseases and rheumatism, which took the fifth and sixth places in Bengal, were eighth and ninth in Madras; whereas dysentery and hepatitis, which came fifth and seventh in Madras, came ninth and eighth in Bengal, and occupied the same position in Bombay. The arrangement of the diseases in all three Presidencies in 1877 accorded generally, to a remarkable extent, with the experience of previous years; and the year may be taken as a typical one.

The chief causes of mortality.

The ten principal causes of deaths in Bengal in 1877 were, in the order of their frequency: enteric fever, hepatitis, injuries, apoplexy, heart diseases, phthisis pulmonalis, malarial fevers, respiratory diseases, dysentery, suicide. In all three Presidencies, the ten forms of disease which contributed most to the death-rate were the same, with the exceptions that respiratory diseases did not form part of the list in Madras, nor malarial fevers in Bombay, and that cholera, which is not in the list just given for Bengal, occupied a high place in both the others.

Health in Bengal and Madras.

The figures quoted in this section show that while the admission rate in Madras was lowest, in all other respects Bengal compared favourably with the other two Presidencies. It showed the lowest sick-rate, the lowest death-rate, and the smallest proportion of loss by invaliding. Cholera was not prevalent during 1877, and added but little to the mortality throughout India; of the cases which occurred, 65 per cent. were fatal. The experience of a number of years goes to show that enteric fever is in the main a disease of young soldiers new to India, the majority of sufferers being men in their first or second year. With reference to the great prevalence of venereal diseases in the European army, it is stated that 'the working of the lock hospitals in all three Presidencies during 1877 must be pronounced to have been more or less a failure.'

Young soldiers.

Causes of invaliding.

The most important diseases on account of which men were invalided in 1877 were:—general debility (12·63 per 1000), hepatitis (5·55), diseases of heart and large vessels (3·62), phthisis pulmonalis (3·14), dysentery and diarrhœa (2·56),

rheumatism (1·98), secondary syphilis (1·40 per 1000). In 1876 and 1875, the same causes occupied the first seven places, except that fevers, which do not appear in the 1877 list, stood sixth in 1875, and seventh in 1876. The ratios for the three years under each head were remarkably similar. The following tables show—(1) the health-statistics of the European troops throughout all India, for a series of years; and (2) the sickness, mortality, and invaliding among those troops in 1877, arranged separately under the three Presidencies :—

DEATH-RATE AMONG EUROPEAN TROOPS IN INDIA, 1871–1877.

Period.	Average Strength.	Ratio per 1000 of Average Strength.				
		Admissions into Hospital.	Daily Sick.	Deaths.	Invaliding.	Total Loss.
1871 to 1875, .	58,432	1394	57	17·62	43·09	60·71
1876, . .	57,858	1361	56	15·32	38·90	54·22
1877, . .	57,260	1257	56	12·71	42·25	54·96

SICKNESS, MORTALITY, AND INVALIDING AMONG EUROPEAN TROOPS IN THE THREE PRESIDENCIES DURING 1877.

Presidency.	Average Strength.	Ratio per 1000 of Average Strength.				
		Admissions into Hospital.	Daily Sick.	Deaths.	Invaliding.	Total Loss.
Bengal, . .	36,179	1246	54	11·64	39·07	50·71
Madras, . .	10,989	1177	58	16·83	47·47	64·30
Bombay, . .	10,092	1365	58	12·09	48·04	60·13

Health of the Native Army.—The sickness and mortality in 1877 in the regular Native Armies of Bengal, Madras, and Bombay, the Central India Regiments, Punjab Frontier Field Force, and Haidarábád Contingent, are shown by the following figures :—average strength of troops (present with regiments), 113,966; admissions into hospital, 1030 per 1000; daily sick, 32; deaths from cholera, 1·53; deaths from all causes, 10·90,

Health of the Native Army.

or, including men dying while absent from their regiments, 13·38 per 1000.

in Bengal; In the Bengal Native Army, the death-rate in 1877 was 10·32 per 1000, a lower ratio than for any one of the previous ten years, during which the average was 13·84. In the Central India Regiments, the death-rate was 9·71, as against 11·10 per 1000, the average of the preceding ten years. In the Punjab Frontier Field Force, the mortality was 12·26 in 1877, compared with 15·88, the average of the ten years preceding. Altogether, the Sanitary Commissioner reports that the health of the Native Army in Bengal was better in 1877 than in any previous year.

in Madras; In the Madras Native Army, the mortality, including deaths among absentees, was 14·36 per 1000. Of the different parts of the country to which the Madras troops are sent, Southern India showed the least sickness, and British Burma, with the Andamans, the smallest mortality.

in Bombay. In the Bombay Native Army, the death-rate, including deaths among absentees, in 1877 was 12·96 per 1000, varying from 11·65 in regiments in the northern Division of Bombay, to 18·81 for those in the Konkan. The figures for Madras and Bombay are given very briefly, as the Sanitary Commissioner accepts the returns from those Presidencies with considerable reserve, owing to statistical discrepancies, due to some extent to a want of uniformity in the procedure followed in the three Presidencies. The returns for the Haidarábád Contingent in 1877 were more favourable than those for any other portion of the Native Army. The admissions into hospital were only 806 per 1000; daily sick, 26; and mortality (including deaths among absentees), 9·61 per 1000. The number of deaths from cholera, however (4·43 per 1000), was much above that recorded in any other part of the Native Army.

Results in the three Presidencies compared.

The sickness and mortality in the Regular Native Armies and other forces are compared in the following statement :—

SICKNESS AND MORTALITY AMONG NATIVE TROOPS IN 1877.

Presidency, etc.	Deaths per 1000, including Deaths among Absentees.	Average Strength (present with Regiments).	Ratio per 1000.			
			Admissions into Hospital.	Daily Sick.	Deaths from Cholera.	Deaths from all Causes.
Bengal Native Army, . .	13·63	39,649	1096	33	·35	10·32
Madras ,, ,, . .	14·36	28,304	860	28	2·79	11·80
Bombay ,, ,, . .	12·96	23,388	1074	33	1·93	10·90
Central India Regiments, .	10·59	5,046	810	25	·79	9·71
Punjab Frontier Field Force,	14·55	10,359	1403	41	...	12·26
Haidarábád Contingent, .	9·61	7,220	806	26	4·43	9·42
India, . .	13·38	113,966	1030	32	1·53	10·90

Health of the Jail Population.—The Report of the Sanitary Commissioner with the Government of India for 1877, from which all the figures in the above sections are taken, was the first which included the jails of all three Presidencies. 'The year 1877, to which it refers,' says the Sanitary Commissioner, 'is particularly unfortunate for commencing this change, as, owing to famine and distress over great portion of both Madras and Bombay, the number of prisoners in those parts was suddenly increased far beyond all precedent; the new prisoners were, in large proportion, received in a low state of health, consequent on continued privation; the jails having such large and unexpected calls for accommodation on them, were, as a rule, greatly overcrowded, and the sickness and mortality, as was to be expected, have been lamentably in excess of former years.' Health of the Jail Population.

The average number of prisoners throughout India in 1877 is returned at 110,147; admissions into hospital numbered 1017 per 1000; daily sick, 36 per 1000; average death-rate, 61·95 per 1000. The months of October and November gave the highest admission rate (97), and the month of November the highest death-rate, 9·18. Dysentery, diarrhœa, and cholera were the main causes of mortality, the three together accounting for 33·61 out of the total of 61·95 per 1000. 'There are no previous figures with which these general results of 1877 can be compared; they deserve attention as the first collection of statistics regarding the sickness and mortality among the prisoners of all India, a collection which cannot fail in a few years to contribute very valuable information.' The returns for General statistics, 1877.

Returns for the three Presidencies.

the Bengal Presidency were very favourable, the mortality being 31·88 per 1000, as compared with 37·51 in 1876, 33·65 in 1875, and 46·09, the average for the ten-year period, 1864-73. In the Madras Presidency, the returns showed a mortality of 176·01, while the ratio for the Bombay Presidency was 54·37 per 1000. The causes of these high figures have already been indicated. In only 17 of the 34 jails in the Madras Presidency was the death-rate under 100; in the others it varied much, rising to 200, 300, 500, and in one (Coimbatore District Jail) 657 per 1000. And in Bombay Presidency, where similar causes were at work, though in a minor degree, the mortality (54·37) was double what it had been for years. The following table condenses the health statistics of the Indian jails in 1877:—

SICKNESS AND MORTALITY IN INDIAN JAILS, 1877.

Province.	Average Strength.	Ratio per 1000 of Average Strength.					
		Admissions into Hospital.	Daily Sick.	Deaths.			
				Cholera.	Bowel Complaints.	Atrophy and Anæmia.	Total.
Bengal Proper, . .	17,862	1276	39	8·29	18·98	3·42	49·66
North-Western Provinces,*	21,668	535	21	1·43	5·45	1·89	19·71
Oudh,*	6,726	504	16	...	2·08	1·19	10·56
Punjab, ...	12,129	1504	37	·08	10·64	1·07	33·80
Central Provinces, . .	3,484	907	37	·29	12·92	12·92	45·06
Berar, ...	963	937	26	...	1·04	5·19	15·58
Assam, ...	1,261	1382	40	11·10	23·00	2·38	56·30
British Burma, . . .	4,686	844	38	19·63	18·56	4·27	56·76
Madras,†	20,328	967	40	26·12	85·15	24·50	176·01
Bombay,†	11,531	935	27	3·64	26·19	8·67	54·37
Andamans, . . .	9,039	1687	76	...	5·20	7·19	34·30

N.B.—A synopsis of article INDIA, and a full table of its contents, will be found at the beginning of this volume. Ten Statistical Appendices, dealing with the population and trade of India, are given at the end.

* These, although now under one Local Government, are shown separately for comparison with former years. The favourable results in Oudh are worthy of attention.

† It should be remembered that the mortality in the Madras and Bombay jails in 1877 was greatly increased by the reception of starving prisoners during the famine.

Indore (or *Indor*).—One of the principal Native States in Málwá or Central India, being coextensive with the territories of the Holkar dynasty. It is in political relationship with the Indore Agency, under the Central India Agency and the Government of India. The name of the State is taken from that of the capital, INDORE City. Area, 8075 square miles; estimated pop. (1878), 635,000 souls.

The State consists of many isolated tracts. But since 1861, arrangements have been made to concentrate the territory as much as possible; and lands, which were formerly held by Holkar in Ahmednagar District and in the Deccan, have been exchanged for lands in Nimáwar, and for the *parganás* of Barwai, Dhurgáon, Khasrawad, and Mandlesar, bordering on the Narbada (Nerbudda) river and the tract in which Indore city is situated. This territory, within which is also the British cantonment of Mhow (Mau), is bounded on the north by part of Sindhia's dominions, on the east by the States of Dewás and Dhar and the District of Nimár, on the south by Khándesh District, and on the west by Barwáni and Dhar. It lies between 21° 24′ and 24° 14′ N. lat., and between 74° 28′ and 77° 10′ E. long. Its length from north to south is 120 miles, its breadth 82 miles; and it is nearly bisected by the Narbada (Nerbudda) river. The next largest portion of Holkar's dominions is that annexed to the town of RAMPURA, north of Indore, lying between 24° 3′ and 24° 40′ N. lat., and between 75° 6′ and 76° 12′ E. long. This tract is 70 miles in length from east to west, and 40 in breadth. Its principal towns are Rámpura, Bhánpura, and Chandwára. A third division, also north of Indore, includes the town of MEHIDPUR, in lat. 23° 29′ N., and long. 75° 42′ E. A fourth portion, westward of Indore, contains the town of Dhie, in lat. 22° 10′ N., and long. 74° 39′ E. There are also several smaller estates in Málwá, including Satwas Nimáwar recently acquired by exchange.

Physical Aspects.—The northern parts of the State are watered by the Chambal and its tributaries, and the tracts to the south by the Narbada (Nerbudda). This southern division is traversed by the Vindhyá range, running across it from east to west. It forms a section of the Narbada valley, and is bounded on the south by the Sátpura Mountains. The Narbada flows in a deep channel between precipitous banks of basaltic rock, and during the rains rushes down with great rapidity and in a large volume of water. The valley of Mandlesar, in the centre of the State, has an elevation of between 600 and 700 feet above sea level. The general appearance of the country is that of an undulating valley, intersected by low rocky ranges, in some parts thickly clothed with stunted jungle, consisting of *dhák*, *bábul*, and other scrub-wood, which also covers considerable tracts in the plains. Like the rest of Málwá, the soil of Indore is fertile, consisting largely of the rich black loam known as 'cotton-soil.' The principal

crops are wheat, rice, millets, pulses, oil-seeds, sugar-cane, cotton. The soil is peculiarly suited to the growth of the poppy plant, the cultivation of which is very general. Tobacco of excellent quality is also grown to a considerable extent. The forests of the State may be said to form two belts, one in the south bordering on the Sátpura range, which is considered to be malarious, and another and healthier in the Vindhyán Hills. Teak is being cultivated, and encouragement is given to the production of lac. Wild animals include the tiger, leopard, hunting leopard (*chíta*), lynx, hyæna, jackal, and fox, *nílgái*, (Portax pictus), and two species of wild cattle, the bison (Gavæus gaurus), found in the Kátkut and other jungles, and the wild buffalo (Bubalus arni) of the Sátpuras. Crocodiles and several varieties of venomous snakes are found.

Population.—The ruling class in Indore are Marhattás; and there are the usual other subdivisions of Hindus, a few Muhammadans, with a considerable number of the aboriginal tribes of Gonds and Bhíls. The Vindhyá and Sátpura ranges are the especial home of the Bhíls, where they have been settled from time immemorial. This race is one of the wildest in India, living for the most part on jungle products and game, or on the plunder of their more civilised neighbours. They have, however, of late years been brought into more peaceable habits of life; and many of them are now employed as soldiers and police, in which capacity they have proved themselves useful and trustworthy. The Málwá Bhíl corps is a force of about 600 strong. No regular Census has been taken of the population of the State, but various estimates have been made at different times. In 1866-67, the total population was put down at 744,822, while in 1878 it was returned at 635,000.

Railways.—The principal public work undertaken of late years in Indore, has been the introduction of the general railway system of India. A branch from the Great Indian Peninsula Railway, under the Imperial Department of Public Works, now runs from Khandwa junction (353 miles from Bombay) through Mhow to Indore city, a distance of $85\frac{3}{4}$ miles. It is known as the Holkar State Railway, and is on the metre gauge (3 feet $3\frac{3}{8}$ inches). The line was constructed out of a loan of 100 *lákhs* of rupees (£1,000,000), made by the Mahárájá Holkar to the British Government for a period of 101 years, to bear interest at the rate of $4\frac{1}{2}$ per cent. per annum. The Mahárájá also ceded the land required for the railway, free of charge; and the British Government has full civil and criminal jurisdiction, short of absolute sovereignty, over it. The Mahárájá is to receive one-half of the surplus profit of the line, in excess of the $4\frac{1}{2}$ per cent. interest on the capital invested. The principal engineering works on the railway are the ascent of the Vindhyá range, and the construction of a bridge

across the Narbada, with 14 spans of 200 feet wrought-iron girders. The bridge was opened in October 1876. From Indore the line is taken up by the Nimach Railway (known as the Holkar and Nimach State Railway) through part of Sindhia's dominions, connecting Indore with Nasírábád (Nuseerábád), and finally with Delhi and Agra.

The chief means of road communication are the Bombay and Agra Trunk Road, which runs through Indore, with branches to Mhow, Dhar, etc.; another road, 80 miles in length, joins Indore with Khandwá, crossing the Narbada by ferry. A metalled roadway is also in course of construction between Mhow and Nasírábád.

Industries.—There are several cotton mills in the State of Indore (one belonging to the Mahárájá), which are in constant work. The weight of cloth produced in 1875 was 394,488 lbs. In 1878, the number of spindles was 10,000. Opium manufacture is another important industry; and in 1877-78, 16,243 chests were exported from Indore, yielding a revenue of £65 per chest to the British Government at the border custom stations.

History.—The history of Indore, as a separate State, only dates from the first half of the last century. The Holkar family are Marhattás of the Dhangar or goat-herd tribe. The founder of the dynasty was Malhar Ráo, the son of a shepherd, who was born about 1693, in the village of Hol or Hal on the Nira river in the Deccan, from whence the family derives the surname of Holkar, the affix 'kar' or 'kur' signifying inhabitant. In his youth Malhar Ráo abandoned his hereditary peaceful occupation, and joined a small body of cavalry in the service of a Marhattá noble. He early distinguished himself; and about 1724, he entered the service of the Peshwá as the commander of 500 horse. After this, his rise was rapid, and four years later he was rewarded by large tracts of land, the nucleus of the present principality. In 1732, he filled the post of principal general to the Peshwá, and defeated the army of the Mughal Viceroy of Málwá. Indore, with the greater portion of the conquered country, was assigned to Malhar Ráo for the support of his troops; and in 1735, he was appointed Commander of the Marhattá forces north of the Narbada. During the next twelve years, he was constantly employed,—in campaigns against the Mughals, in assisting at the expulsion of the Portuguese from Bassein, and in aiding the Nawáb Wazír Safdar Jang in preserving Oudh from the Rohillás. During all this time, his possessions and influence rapidly increased, and raised him to a foremost position among the chiefs of India. At the battle of Pánipat in 1761, Malhar Ráo divided with Sindhia the command of the right wing of the Marhattá army. It is asserted that Malhar Ráo did not here fight with his old spirit. He probably foresaw the event of the battle; at any rate retreated with his contingent before the defeat had become a rout.

After Pánipat, Malhar Ráo retired to his own possessions in Central India, and employed himself in reducing his vast possessions to coherence and order. He died in 1765, leaving behind him a principality bringing in an annual revenue of three-quarters of a million sterling. He was succeeded by his grandson Máli Ráo, a lad who died insane nine months after his accession. The administration was then assumed by the famous Ahalya Bái, Máli Ráo's mother, who prosperously ruled the State in conjunction with her commander-in-chief Túkají Ráo, for thirty years. She died in 1795, and was not long survived by Túkají Ráo; after whose death the power of the house of Holkar was nearly extinguished by family quarrels, and by the dissensions which distracted the whole Marhattá confederacy at the close of the last century. The fortunes of the family were, however, restored by Jaswant Ráo, an illegitimate son of Túkají, who, after a signal reverse from the army of Sindhia, employed European officers to reorganize and discipline his army. In 1802, he defeated the united army of Sindhia and the Peshwá at the battle of Poona, and possessed himself of that city. The treaty of Bassein between the Peshwá and the British Government resulted in the former being restored to his capital as a virtual vassal of the British; and Jaswant Ráo returned to his own dominions.

In the Marhattá war of 1803, Jaswant Ráo Holkar held aloof, apparently intending to take advantage of the hostilities to aggrandize himself at Sindhia's expense. His schemes, however, were rendered hopeless by the treaty of Sarji Anjengáon; and Holkar, after making a series of inadmissible proposals for an alliance, seems to have hastily determined, unaided and alone, to provoke hostilities with the British. In the war which followed, Holkar obtained a temporary advantage in compelling Colonel Monson to retreat with great loss, and at once invaded British territory. Here, however, fortune deserted him, and after successive defeats he was forced to retire upon the Punjab, closely followed by Lord Lake, to whom, in December 1805, he surrendered himself, and signed a treaty on the banks of the Biás river, by which he gave up the territories which had been occupied by the British in the course of the war. These, however, were restored to him in the following year. Jaswant Ráo afterwards became insane, and died in 1811, leaving the regency in the hands of a favourite concubine, Tulsí Bái, during the minority of his son, Malhar Ráo. For some years, the State was torn by internal dissensions, and overrun by Pindári marauders. The army mutinied, and the regent petitioned that she and the youthful Rájá might be received under British protection. While negotiations were proceeding, however, war broke out between the British and the Peshwá, a hostile bearing was assumed by Holkar's Court; the Queen Regent being seized and murdered. This was followed by the complete defeat of

Holkar's army at Mehidpur, and the treaty of Mandisúr on the 6th January 1818, which deprived him of much territory, and reduced him to the position of a dependent prince. The terms of this treaty still govern the relations of the British Government with the State.

Malhar Ráo Holkar died in 1833, at the age of 28, without issue, but his widow adopted as his son a child, Martand Ráo. This adoption proved unpopular; and a few weeks afterwards, Martand Ráo was summarily deposed by a cousin, Hari Ráo, who had been in prison since 1819, in consequence of an unsuccessful rebellion, and whose accession was welcomed by the troops and people. His long imprisonment had, however, unfitted him to govern, and his reign was a period of intrigue and disorder. He died in 1843, and his adopted son, who succeeded him, survived for a few months only, dying unmarried and heirless. The selection was declared to rest with the British Government. Túkají Ráo (the present Mahárájá), the second son of Bhas Holkar, at that time eleven years of age, was chosen and formally installed. During his minority, the administration was conducted by a regency; but in 1852, the young Mahárájá attained his majority, and was invested with the entire management of the affairs of the State. Since that time, there has been little or no change in the political relations with the British Government. During the Mutiny of 1857, a considerable portion of the State troops rose against the British, and besieged the Resident, who with some difficulty succeeded in retiring to Bhopál with the English women and children of his garrison. The Mahárájá, however, remained loyal; and his rebellious troops a few weeks afterwards laid down their arms, and order was again restored.

The relations of Indore with the British Government are—that the British undertake to protect the State; to mediate in case of differences with other States; and to place at Indore an accredited political agent. The Mahárájá Holkar on his part engages to abstain from direct communication with other States; to limit his military establishments; to engage no Europeans or Americans in his service without the consent of the British Government; and to afford every facility towards the purchase and transport of supplies for the auxiliary force to be maintained for his protection. The Mahárájá received a *sanad* of adoption. He has been created a Knight Grand Commander of the Star of India, a Companion of the Order of the Indian Empire, and is entitled permanently to a salute of 19 guns in British territory, and to a salute of 21 guns in his own territory. The present Mahárájá enjoys a personal salute of 21 guns in British territory also. He has also been made a Counsellor of the Empress. Indore maintains a military establishment of 3100 regular and 2150 irregular infantry, 2100 regular and 1200 irregular cavalry, and 340 artillerymen, with nominally 24 field-guns equipped.

Administration.—The revenue of the State in 1875 amounted to £459,800, and in 1878, to £512,300; the expenditure in 1875 was £405,100, and in 1878, £416,600. Within the last few years, there have been instituted civil and criminal courts of justice, public works, and postal departments, together with improvements in the system of jail management. One of the principal institutions in the State is the Residency (Rájkumar) College at Indore, for the education of the sons of the chiefs and gentry of Central India, affiliated to the Calcutta University. The college has upwards of 200 boys on the roll, and the Principal, by desire of the chiefs, exercises a general supervision over the State schools throughout Málwá. The Mahárájá's college at Indore educates almost exclusively Deccaní Bráhmans. At Mandlesar and Khargáon there are English schools; and in the Marathí schools at Mahesar, Rampura, Kanod, and Barwái, English classes have been formed. A law school and a Sanskrit school were established in 1875; and two girls' schools at Indore town are well attended. There are, besides, 9 Marathí, 36 Hindí, 8 Sanskrit, 9 Persian, and 14 Hindí-Marathí schools. The State expenditure on education is about £3500 a year.

Climate.—The climate is sultry, the temperature ranging from 60° to 90° F. within doors. The annual rainfall at Indore during the ten years ending 1877 averaged 35·28 inches. Indore city contains a charitable hospital, leper asylum, and dispensary. Cholera frequently prevails in the State.

Indore.—Chief town of Indore State, and capital of Holkar's territories; situated on the left bank of the Katki or Kan river, in lat. 22° 42′ N., and long. 74° 54′ E. It is the residence of the Mahárájá, and of the Resident or Assistant to the Governor-General for Central India. As a city, it is small and of modern date, built by Ahalya Bái (*circ.* 1770), after the death of Malhar Ráo, the founder of the State. The former capital of the tract within which it is situated, previous to the Marhattá invasion, was Kampail, 18 miles south-east of Indore, which has now dwindled to a village. The Court of Holkar was transferred to Indore in 1818; and it is now a prosperous city, with an estimated population of 15,000, and connected by rail with the railway systems of Bombay and Northern and Eastern India. The city stands on an elevated and healthy site, nearly 2000 feet above sea level. The spacious palace, with its lofty, many-storied gateway, is conspicuous from every point. The other chief objects of interest are the Lál Bágh or garden, with its pleasant summer palace and interesting collection of animals, the mint, high school, market-place, reading-room, dispensary, large cotton mill, etc. To the west of the city is an antelope preserve, where sport with the hunting-leopards may be enjoyed. The railway station is about a mile from the palace. The Residency is a handsome and substantial stone house, situated

in a beautiful park, through which the river flows. A company of European troops occupy a range of spacious barracks, and about 20 small bungalows are occupied by the Residency Staff and other Government servants. The Rájkumar College, where the young chiefs of Málwá are educated, is situated within the jurisdiction of the British Residency.

Indore Political 'Agency.'—Collection of Native States in Central India, under the superintendence of the Government of India, through an official styled 'Governor-General's Agent for Central India.' The Agency comprises the three States of INDORE, DEWAS, and BAGLI, all of which see separately.

Indori.—Small hill torrent in Gurgáon District, Punjab. Rises beyond the boundary in Rájputána, on the Alwar side of the Mewát Hills; runs due northward into British territory; passes the towns of Táom and Barah; and finally, after joining the Sahíbi, falls into the Najafgarh *jhíl.* The Indori frequently floods the country at the foot of the hills, and the land thus submerged ranks among the richest in Gurgáon.

Indus (Sanskrit, *Sindhu;* Greek, *Sinthus;* Latin, *Sindus*).—One of the three great rivers of Northern India. It rises in an unexplored region on the northern slopes of the sacred Kailas Mountain (summit, 22,000 feet), the Elysium of ancient Sanskrit literature. On the south of the same hill rises the Sutlej, the great feeder of the Indus, which unites with it after a separate course of about 1000 miles. The Indus rises in lat. 32° N. and long. 81° E., enters the Punjab (Panjáb) in lat. 34° 25′ N. and long. 72° 51′ E., leaves the Punjab in lat. 28° 27′ N. and long. 69° 47′ E., enters Sind in lat. 28° 26′ N. and long. 69° 47′ E., and finally falls into the Arabian Sea in lat. 23° 58′ N. and long. 67° 30′ E. The drainage basin of the Indus is estimated at 372,700 square miles, and its total length at a little over 1800 miles.

The first section of the course of the Indus lies outside of British territory, and must be briefly dealt with here. It takes its rise in Thibet behind the great mountain wall of the Himálayas, which forms the northern boundary of India. It at first flows north-west for about 160 miles under the name of Sinh-ka-bab, until it receives the Ghar river on its south-western bank. A short distance below this junction, it enters Kashmír, and continues north-west to Leh, where it is crossed by the great trade route into Central Asia *viâ* the Karakoram Pass. The Indus is supposed to have an elevation of 16,000 feet at its source. Shortly after it passes the Kashmír frontier, it drops to 14,000 feet, and at Leh is only about 11,278 feet above the level of the sea. The rapid stream dashes down gorges and wild mountain valleys, and is subject to tremendous floods. Indeed, even in summer it is said to dwindle down to a fordable depth during the night, and during the course of

the day to swell into an impassable torrent from the melting of the snows on the adjoining heights. Still flowing north-west through Kashmír territory, it passes near Iskardoh in Little Thibet, until in about lat. 34° 50′ N., and long. 74° 30′ E., it takes a turn southwards at an acute angle, receives the Gilgit river from the north, and shortly afterwards enters Kohistán near Gúr. It then passes for about 120 miles south-west through the wilds of Kohistán, until it reaches the Punjab frontier in lat. 34° 25′ N., and long. 72° 51′ E., near Derbend, at the western base of the Mahában Mountain. The only point to which special allusion can be made in the long section of its course beyond British territory, is the wonderful gorge by which the river bursts through the western ranges of the Himálayas. This gorge is near Iskardoh in Little Thibet (*i.e.*, North-Western Kashmír), and is said to be 14,000 feet in sheer depth.

The Indus, on entering the Punjab, 812 miles from its source, is about 100 yards wide in August, navigable by rafts, but of no great depth, and studded with sandbanks and islands. It is fordable in many places during the cold weather; but floods or freshets are sudden, and Ranjít Sinh is said to have once lost a force, variously stated at from 1200 to 7000 horsemen, in crossing the river. Even the large and solid ferry-boats which ply upon it are sometimes swept away. A little way above ATTOCK, in Rawál Pindi District, it receives the Kábul river, which brings down the waters of Afghánistán. The two rivers have about an equal volume, both are very swift, and broken up with rocks. Their junction during floods is the scene of a wild confusion of waters. The Kábul river is navigable for about 40 miles above the confluence, but a rapid just above it renders the Indus impracticable.

Attock forms the first important point on the Indus within British territory. By this time the river has flowed upwards of 860 miles, or nearly one-half of its total length, its further course to the sea being about 940 miles. It has fallen from its elevation of 16,000 feet at its source in Thibet to under 2000 feet, the height of Attock being 2079. In the hot season, opposite the fort, its velocity is 13 miles an hour; and in the cold season, 5 to 7 miles. The rise of ordinary floods is from 5 to 7 feet in 24 hours only, and the maximum is 50 feet above cold-weather level. The Indus is crossed at Attock by a bridge of boats and a ferry. The main trunk road to Pesháwar crosses it at this point, and the railway will hereafter do so.

After leaving Attock, the Indus flows almost due south along the western side of the Punjab, parallel to the Suláimán Hills. The great north road from Sind to Bannu runs for several hundreds of miles close to its western bank; and another road from Multán (Mooltan) to Rawál Pindi almost parallel to its eastern bank. The river intersects the two great frontier Districts of Derá Ismáil Khán and Derá

Ghází Khán, with the Sind Ságar Doáb on its eastern bank, and only a narrow strip of British territory between it and the hill tribes of the Suláimán ranges on the west. Just above Mithánkot, in the south of Derá Ghází Khán District, the Indus receives the accumulated waters of the Punjab. Between the Indus and the JUMNA (Jamuná) flow the five great streams from which the Punjab (Panj-áb, literally, 'The land of the five waters') takes its name. These are the JHELUM, the CHENAB, the RAVI, the BEAS (Biás), and the SUTLEJ (Satlaj). After various junctions, these rivers all unite to form the PANJNAD, literally, 'The five rivers.' The Panjnad marks for a short space the boundary between the Punjab and Baháwalpur State, and, as already stated, unites with the Indus near Mithánkot, about 490 miles from the sea. The breadth of the Indus above the confluence is about 600 yards, its velocity 5 miles an hour, its depth from 12 to 15 feet, and its estimated discharge 91,719 cubic feet per second. The breadth of the Panjnad above the point of junction is 1076 yards, with an equal depth of 12 to 15 feet, but a velocity of only 2 miles an hour. Its estimated discharge is 68,955 cubic feet per second. Below the junction, the united stream, under the name of the Indus, has a breadth which varies from 2000 yards to several miles, according to the season of the year. The whole course of the Indus through the Punjab is broken by islands and sandbanks. Mithánkot has an elevation of only 258 feet above the level of the sea. From this point the Indus forms the boundary between the Punjab and Baháwalpur State, until it enters Sind in lat. 28° 26′ N., and long. 69° 47′ E. Finally, it empties itself by many mouths into the Arabian Sea, after a generally south-westerly course in that Province of 580 miles. It ranges in width from 480 to 1600 yards, the average during the low season being 680 yards. During the floods it is in places more than a mile in width. Its depth varies from 4 to 24 feet. The water, derived from the snows of the Himálayas, is of a dirty brown colour, and slightly charged with saline ingredients, carbonate of soda and nitrate of potash. Its velocity in the freshets averages 8 miles per hour, at ordinary times 4 miles. The discharge per second varies at the two periods from 446,086 cubic feet to 40,857. On an average, the temperature of the water is 10° lower than that of the air.

The delta of the Indus covers an area of about 3000 square miles, and extends along the coast-line for 125 miles. It is almost a perfect level, and nearly destitute of timber, the tamarisk and mangrove alone supplying fuel. In the marshy portions good pasturage is obtained, and rice grows luxuriantly wherever cultivation is possible. The climate is cool and bracing in the winter months, excessively hot in the summer, and during the floods most unhealthy. In 1800, the Indus at the apex of the delta divided into two main streams, known as the

Baghiár and Sítá; but in 1837 it had entirely deserted the former channel. The Khedewári passage also, which before 1819 was the highway of water traffic to Sháhbandar, was in that year closed by an earthquake. In 1837, the Kakaiwári, which had then increased from a shallow creek to a river with an average width at low water of 770 yards, was recognised as the highway; but before 1867, this also was completely blocked. For the present the HAJAMRO, which before 1845 was only navigable for the smallest boats, is the main estuary of the Indus. The following facts illustrate further the shifting nature of this river. In 1845, Ghorabári, then the chief commercial town of the delta, was on the river bank; but in 1848 the river deserted its bed. Upon this, the town of Keti was built on the new bank. This, however, was overflowed a few years later, and a second Keti had to be built farther off. At present one of the chief obstructions to navigation is a series of rocks between Tatta and Bhimán-jo-pura, which in 1846 were 8 miles inland. In 1863, a thousand acres of the Dhárejá forest were swept away. The rapidity and extent of the destructive action in constant progress in the delta may be estimated from the fact, that travellers have counted by the reports as many as 13 bank slips in a minute. In places the elephant grass (Typha elephantina) does good service by driving its roots very deeply (often 9 feet) into the ground, and thereby holding it together.

The Indus begins to rise in March, attains its maximum depth and width in August, and subsides in September. The registered rise at Gidu-Bandar, near Haidarábád, is 15 feet.

Fish abound. At the mouths, the salt-water varieties include the Clupea neowhii, a species of herring largely consumed along the coast and in the delta. The chief of the fresh-water varieties is the *pala*, placed by Dr. Day under the Clupeidæ, and nearly allied to, if not identical with, the *hilsa* of the Ganges. The local consumption and export of dried *pala* are both very large. Otters, turtles, and crocodiles are also numerous.

The entire course of the Indus in British territory, from Attock to the sea, lies within the zone of deficient rainfall, the annual average being nowhere higher than 10 inches. Cultivation, therefore, is absolutely dependent upon artificial irrigation, almost to as great an extent as in the typical example of Egypt. But the Indus is a less manageable river than the Nile. Its main channel is constantly shifting; and during the season of flood, the melted snows of the Himálayas come pouring down in an impetuous torrent which no embankment can restrain. From time immemorial, this annual inundation has been utilized as far as possible by an industrious peasantry, who lead the water over their fields by countless artificial channels. Many such channels, constructed in the old days of native rule, extend 30 and

even 40 miles from the river bank; but no comprehensive scheme of irrigation, comparable to the works on the Ganges and Jumna, has yet been taken in hand by British engineers. The existing canals are all classified as 'intermittent inundation canals,' *i.e.* they have been constructed without system so as merely to intercept the flood-waters when they rise high enough to overtop the head-works. The great want of Sind is a system of 'perennial canals,' which shall take off from the Indus at those few points in its course where a permanent supply can be secured all the year through, and regulated by a series of dams and sluices. One such work, the Sukkur Canal, was approved in the year 1861, and is now approaching completion. A full account of irrigation in SIND will be found in the article on that Province. It must suffice in this place to give a list of the principal works, following the Indus downwards from the Punjab. The waters of the river are first utilized on a large scale in the thirsty Districts of the Deraját, which form a narrow strip between the Indus and the Suláimán Mountains. The canals in this tract have an aggregate length of about 600 miles, of which 108 have been constructed under British rule; and the total area irrigated is about 600,000 acres. In Muzaffargarh District, and in the Native State of Baháwalpur, which extend along the opposite bank, the Chenáb and Sutlej, as well as the Indus, contribute to render cultivation possible. In Sind itself, the following are the chief canal systems:—On the right or west bank, the Sukkur, the Sind, the Ghar or Larkána, the Bigári, and the Western Nára; on the left or east bank, the Eastern Nára and the Fuleli, each with many distributaries.

As a channel of navigation, the Indus has disappointed the expectations that were at one time formed. Before British arms had conquered Sind and the Punjab, it was hoped that the fabled wealth of Central Asia might be brought by this course down to the sea. But, even so far as local traffic is concerned, experience has proved in this case, as with most other Indian rivers, that the cheapness of water communication cannot compete with the superior speed and certainty of railways. Since the opening of the Indus Valley State Railway in the autumn of 1878, navigation on the Indus, whether by steamer or by native boat, has greatly fallen off. The general character of the Indus trade may be inferred from the following statistics, which refer to the year 1875-76. The Indus flotilla, under the management of the railway company, carried down-stream goods to the value of £519,000, the chief items being Indian cotton goods (£219,600), wool (£89,000), oil-seeds, indigo, and sugar; the up-traffic by steamer was valued at £518,000, almost entirely confined to Manchester piece-goods (£415,000) and metals (£61,000). The traffic down-stream in country boats, as registered at Sukkur, was valued at £449,000, the chief items being wool, oil-seeds, wheat, and raw cotton. The return trade by country boats was valued

at only £86,000, of which more than one-half was metals. The total number of boats passing Sukkur was 3117, of which 2616, with cargoes aggregating 1,272,186 *maunds*, or 45,435 tons, were going down-stream. The total receipts of the Conservancy and Registration Department in that year amounted to £5916, against an expenditure of £6442, showing a deficit of £526. The principal duty of this department is to clear obstructions from the river bed, to maintain a steam ferry, and to provide pilots for the steamers of the flotilla.

The first steamer was placed on the river in 1835. In 1847, there were 10 Government steamers, with headquarters and a factory at Kotri, the yearly expenditure ranging from 2¾ to 5 *lákhs* (£27,500 to £50,000). This flotilla was broken up in 1852. In 1859, a company established another 'Indus flotilla' in connection with the Sind Railway, with which it was formally amalgamated in 1870, the joint headquarters being removed to Lahore in the Punjab. In 1874, the number of steamers plying was 14, and of barges 43, with an aggregate tonnage of 10,641. The receipts were £83,370, being from goods up-river, £53,955; down-river, £23,678; and from passenger traffic, £5737.

For the conservancy of the river, Act i. of 1863 (Bombay) provides for the registration of vessels, and the levy of pilotage fees by an officer called the Conservator and Registrar of the Indus, the sums thus realized being expended on the improvement of navigation.

The boats of the Indus are the *dúndhi* and *zaurak*, both cargo-boats, the *kauntal*, or ferry-boats, and the *dúndo*, or fishing-boats. The cargo-boats are sometimes of 60 tons burden, and when laden draw 4 feet of water. The state barges of the Mírs, or *jhamptis*, were built of teak, four-masted, and sometimes required crews of 30 men.

Inhauna.—*Parganá* in Digbijáiganj *tahsíl*, Rái Bareli District, Oudh; bounded on the north by Haidargarh and Subeha *parganás* of Bára Bánki District, on the east by Jagdispur *parganá* of Sultánpur, on the south by Simrauta and Mohánganj *parganás* of Rái Bareli. Originally held by the Bhars, an officer of Sayyid Sálár Masáúd's army defeated them, and occupied their fort, but appears to have made little progress. Ultimately, a Bais named Binár Sah came from the west, drove out the Dhobís and Bhars, and acquired the whole country. Area, 100 square miles, of which 44 are under cultivation, and 26 fit for cultivation, but not under tillage. Government land revenue, £6797, at the rate of 3s. 0½d. an acre. Of the 77 villages comprising the *parganá*, 37 are held by Hindu Bais, and 24 by Bharsiáns, a family of Bais who have been converted to the faith of Islám. Pop. (1869), Hindus, 48,841; Muhammadans, 8678; total, 57,519, viz. 28,282 males and 29,237 females: average density of population, 575 per square mile.

Inhauna.—Town in above *parganá*, Rái Bareli District, Oudh; situated about midway on the unmetalled road between Lucknow and Sultánpur. Lat. 26° 32′ N., long. 81° 32′ E. Formerly the headquarters of a *tahsíl* and police circle, removed on the re-arrangement of Oudh Districts in 1869, since which time its traffic has considerably diminished. Pop. (1869), 3974.

Injerám.—Town in Korangi (Coringa) *zamíndárí*, Godávari District, Madras. Lat. 16° 43′ N., long. 82° 15′ E.; 5 miles south of Korangi. Houses, 355, with (1871) 1672 inhabitants. Now only important as having been one of the earliest of our settlements on this coast. The factory was founded in 1708, and was celebrated for its manufacture of fine long cloth, which, however, soon declined; and in May 1757 it was captured by Bussy. But Injerám continued a mercantile station of the Company till 1829.

Irádatnagar.—Central southern *tahsíl* of Agra District, North-Western Provinces, lying on south-western side of the Jumna (Jamuná), and consisting for the most part of an unbroken plain. Area, 166 square miles, of which 137 are cultivated; pop. (1872), 92,507; land revenue, £18,656; total Government revenue, £20,752; rental paid by cultivators, £33,222; incidence of Government revenue per acre, 3s. 6⅛d.

Irák.—River in Sind, India; rises in lat. 25° 20′ N., and long. 67° 45′ E., at the foot of the Bhúl Hills, between Karáchí (Kurrachee) and Sehwán, and, after a south-easterly course of 40 miles, falls into Lake Kanjar in lat. 24° 53′ N., and long. 68° 6′ E.

Irawadi (*Irrawaddy*).—The principal river of Burma, rising in independent territory, and traversing the Pegu Division of British Burma from north to south. D'Anville, in the 18th century, considered this river as identical with the Tsanpú, which flows through Thibet from west to east; in Dalrymple's map accompanying Syme's *Embassy to Awah* (Ava), that stream is shown as one of the sources of the Irawadi (Irrawaddy), but their point of union was undefined. In 1825, Klaproth maintained that the Irawadi was a continuation of the Pinlaing-kiang, which, after flowing through Western Yunan, entered the valley of the Irawadi at Ba-mhaw. Another geographer asserted that the true source of the river was in China. In 1827, Lieutenants Wilcox and Burton satisfactorily proved that the Tsanpú was the upper portion of the Dihong or Brahmaputra, and not connected with the Irawadi at all. The result of their explorations was to show, as conclusively as can be shown until the river is traced to its source, that it rises in the southern slopes of the Patkoi Mountains—one branch in lat. 27° 43′ N., long. 97° 25′ E., and another in the same hills a few days' journey farther eastward. These two, known as the Myit-gyí or 'Large River,' and the Myit-nge or 'Small River,' respectively, unite to form

the Irawadi in about 26° N. lat. The chief tributaries are the Mogoung, from the westward, which throws its water into the main stream (here 600 yards wide) in lat. 24° 50′ N., and the Shwe-lí and Kyeng-dweng. The general course of the Irawadi is from north to south. Shortly after leaving the mouth of the Mogoung, it enters the first or upper defile. Here the breadth of the river varies between 50 and 250 yards; the current is very rapid, and the return waters occasion violent eddies and whirlpools. When the river is at its lowest, no bottom is found even at 40 fathoms. At Bhamo (Ba-mhaw), it receives the Ta-peng from the east; and then, turning south, after a long bend to the westward it enters the second defile, which is exceedingly picturesque, the stream winding in perfect stillness under high bare rocks rising sheer out of the water. Farther down, and not far from Mandalay, is the third or lowest defile. The banks are covered at this point with dense vegetation, and slope down to the water's edge; at places appear almost perpendicular, but wooded, heights. Except when the river is at its highest, the navigation of the two lower defiles is easy and safe for all but very long steamers. The valley of Ava begins below this third defile, and lies entirely on the east side of the Irawadi; the range of hills, terminating at Sagain opposite Ava, hems the river closely in on the west. The course of the Irawadi, after receiving the waters of the Myit-nge and Tsagaing, as far as 17° N. lat., is exceedingly tortuous; the British frontier is crossed in lat. 19° 29′ 3″ N., long. 95° 15′ E., the breadth of the river here being ¾ of a mile; opposite Thayet-myo, about 11 miles lower down, it is nearly 3 miles broad; 48 miles farther south, it passes Prome. At AKOUK-TOUNG, where a spur of the Arakan Hills ends abruptly in a precipice 300 feet high, the river enters the delta, the hills giving place here to low alluvial plains, now protected on the west by extensive embankments. From 17° N. lat. the Irawadi divides and subdivides, converting the lower portion of its valley into a network of intercommunicating tidal creeks. It reaches the sea in lat. 15° 50′ N., and long. 95° 8′ E., by nine principal mouths—viz. the Bassein, and its eastern entrance the Thek-ngay-thoung, the Rangoon, To or China Bakir, Pya-pún, Kyún-tún, Irawadi, Pya-ma-law, and the Rwe. The Bassein and Rangoon mouths are the only ones used by sea-going ships. The Irawadi delta is constantly encroaching on the sea, owing to the immense quantity of silt brought down by the river, and is cut up into numerous islands by a vast labyrinth of tidal creeks and channels. Scattered along these in the extreme south are temporary villages, occupied during the dry season by salt-boilers and makers of *nga-pí* or fish paste. The area of the catchment basin of the Irawadi is 158,000 square miles; its total length from its known source to the sea is about 900 miles, the last 240 of which are in British territory. As far down as Akouk-toung in Henzada District,

its bed is rocky; but below this, sandy and muddy. It is full of islands and sandbanks, many of the former, and all the latter, being submerged during the rains; its waters are extremely muddy, and the mud is carried far out to sea. The river commences to rise in March; about June it rises steadily, and attains its maximum height about September, at which time it is, at Prome, from 33 to 34 feet above its dry-season level. Below the latitude of Myan-oung, the Irawadi inundates large tracts of country on its eastern or unprotected bank. Several contradictory calculations have been made of its discharge. The total flood discharge for 1877, according to Mr. Gordon's observations, and calculated in metre-tons of 37 cubic feet, was 466,120,288,940. The river is navigable at all seasons by steamers of light draught as high as Bhamo, and during the dry season, for steamers drawing 6 feet, as far as the British frontier. In the rains, steamers and large boats enter the main stream of the Irawadi from Rangoon by the Pan-hlaing or Bhawlay creeks; but during the dry season they have to descend the Rangoon river for some distance, and, passing through the Bassein creek, enter the Irawadi through the To or China Bakir. At this period, the entrance to the Bassein river is entirely closed by a large sandbank. The tide is felt as far up as Henzada, and at Pú-zwondoung it rises 18½ feet at springs. The chief tributaries of the Irawadi in British territory are—the Ma-htún (or Meng-dún), the Ma-de, and Thai-lai-dan, from the west; and the Kye-ní, Bhwotlay, and Na-weng from the east. Below Akouk-toung on the west, and Prome on the east, the Irawadi receives no tributaries of any importance.

The broad channel of the Irawadi has always been the sole means of communication between the interior and the seaboard. From time immemorial, the precious stones, minerals, etc. of Upper Burma, Siam, and the Chinese frontier provinces, have been brought down by this route. At the present day, the great bulk of the trade is in the hands of the 'Irrawaddy Flotilla Company,' an important English carrying firm; but native boats still maintain a strenuous competition. The flotilla of the Company consists of about 60 vessels, including both steamers and flats. They employ about 1770 hands, European and native; and distribute in wages upwards of £50,000 a year. Their headquarters are at Rangoon, where they have leased from Government the old dockyard, foundry, and engineer establishment, for the construction and repair of their large fleet. Steamers run twice a week from Rangoon to Bassein, and also from Rangoon to Mandalay, under contract with the Government of India for the conveyance of mails, troops, and stores. The latter service is continued bi-monthly to Bhamo, a distance of about 1000 miles from the sea. The following is a list of the stopping stations between Rangoon and Mandalay, proceeding up-stream:—Yandún, at the mouth of the Panlang creek, 50 miles above Rangoon,

a large trading village, with manufacture of *ngapi* or salt fish; Donabu, a station for stacking firewood; Henzada, a place of little importance, except as the headquarters of the District of the same name; Yeaghin, with large exports of paddy to Upper Burma; Mya-noung, the former site of the civil station, now moved to Henzada; Prome, in former days the terminus of the steamers; Thayet-myo, the military frontier station, about 350 miles above Rangoon; Minhla, the custom-house station of Independent Burma; Mugway, a considerable centre of local trade, frequented at certain seasons by the Siamese; Yeanang-young, the shipping depôt for the earth-oil or petroleum produced in large quantities at a spot about three miles distant; Sinbugyan, Nyoungú, Kúnywah, and Pokokú; Mingyan, the most important river station in Independent Burma after Mandalay, the traders being chiefly Chinese; Letsambew and Tsagine, both only stopped at going down-stream; Mandalay, about 350 miles above Prome. The principal articles carried up-stream are Manchester piece-goods, rice, salt, hardware, and silk. The articles carried down-stream are raw cotton, cutch (a preparation from Acacia catechu for dyeing), india-rubber, jade, spices, precious stones, timber, earth-oil, and dry crops, such as wheat and peas. The value of the trade either way is roughly estimated at about 1½ millions sterling. The latest figures (for 1876-77) show imports into Independent Burma to the value of £1,417,029, against exports of £1,321,970. In addition, £63,675 was registered as imported into Siam, and £267,791 as exported from Siam.

The total number of native boats on the Irawadi is returned at about 8000 going both up and down stream. They carry a large proportion of the heavy articles of commerce, especially cutch and earth-oil. Going up-stream, they take advantage of the wind, spreading a single enormous sail on a yard sometimes 120 feet long. The Burmese are good sailors, but generally hug the bank closely. When going down-stream, they take advantage of the full strength of the current, by throwing overboard branches of trees attached to the prow, which float down faster than the boat itself. The Rangoon and Irawadi State Railway was opened for traffic as far as Prome (163 miles) on 1st May 1877. The total sum expended up to the date was £845,000. A further extension of 42 miles to Allan-myo is under consideration.

Irich.—Ancient town in Jhánsi District, North-Western Provinces. Pop. (1872), 3482. Lies in lat. 25° 47′ N., and long. 79° 8′ E., on the right bank of the Betwa, 42 miles north-east of Jhánsi. Formerly a town of great importance, the headquarters of a Sarkár under the Mughal empire, but now lying in ruins, with a continually decreasing population. Many mosques and tombs still standing among the suburbs attest its early prosperity. The British army, under the Marquis of Hastings, encamped on the spot in 1817, on its advance to

Gwalior, when suffering from cholera. Here also, in 1804, the British force, under Major Shepherd, sent to oppose the incursions of Amír Khán into Jhánsi and Tehri, awaited his approach from Lalitpur. On his first advance, the Amír found himself overpowered, and retreated to Málthaun; whereupon the British troops, thinking that he had permanently retired, marched on to Banda. Amír Khán shortly afterwards returned, and made Irich his headquarters in his expeditions against Kúnch and Kálpi. Manufacture of chintz and figured broadcloth. First-class police station, school, post office, headquarters of assistant customs patrol.

Irodu.—*Tahsíl* and town, Madras.—*See* ERODE.

Irrukúr.—Village in Cherakal *táluk*, Malabar District, Madras. Lat. 11° 59′ N., long. 75° 37′ E.; houses, 889; pop. (1871), 4330. A considerable entrepôt of trade, and notable as the scene of one of the latest Mopla outrages (in 1852) in North Malabar.

Isakapalli ('*Sandy Village*'—Telugu).—Town in Nellore District, Madras. Lat. 14° 44′ N., long. 80° 8′ E.; 471 houses, with (1871) 3393 inhabitants. A seaport, customs and salt station on the East Coast Canal.

Isákhel.—*Tahsíl* of Bannu District, Punjab, consisting of a tract shut in between the Chicháli and Maidáni ranges and the river Indus. Its extreme northern portion contains a wild and rugged region, a continuation of the Khatak Hills, known as the Bangi Khel country. The *tahsíl* derives its name from the Isá Khel tribe, a section of the Niázái Afgháns, which long maintained its independence of the Mughal empire, and at last succumbed to the Nawáb of Derá Ismáil Khán. Area, 347 square miles; pop. (1868), 46,008; persons per square mile, 132; number of villages, 32; area under cultivation, 49,860 acres.

Isákhel.—Municipal town in Bannu District, Punjab, and headquarters of the *tahsíl* of the same name. Pop. (1868), 7446, consisting of 1935 Hindus, 5475 Muhammadans, 28 Síkhs, and 8 'others.' Lat. 32° 40′ 50″ N., and long. 71° 19′ E., on the high right bank of the Indus, 9 miles west of the present channel; distant from Edwardesábád 42 miles south-east. Founded about 1830 by Ahmad Khán, father of the present ruler. Built without plan; *bázár* and lanes crooked, narrow, and extremely dirty. Small local trade centres in the town. The Kháns of Isákhel are the acknowledged heads of the trans-Indus Niázais. *Tahsíli*, old fort used as police station, staging bungalow, *sarái*, and dispensary. Municipal revenue in 1875-76, £220, or 7⅞d. per head of population (6608) within municipal limits.

Isánagar.—Village in Kheri District, Oudh; situated about 4 miles west of the Kauriála river. The headquarters of the Isánagar estate. Pop. (1869), 1840 Hindus and 376 Muhammadans—total, 2216. Small market.

Isauli.—*Parganá* in Musáfirkhána *tahsíl*, Sultánpur District, Oudh; bounded on the north by Paschimráth and Khandánsa *parganás*, on the east by *parganá* Sultánpur Baraunsa, on the south by Amethi and Sultánpur *parganás*, and on the west by Jagdíspur *parganás*. Originally in the possession of the Bhars, who were ousted about 550 years ago by a party of Bais Kshattriyas, who succeeded to their lands, and on whom Sultán Alá-ud-dín Khiljí bestowed the title of Bhále Sultán, which their descendants still retain. Area, 147 square miles, or 94,235 acres, of which 49,609 are cultivated, 10,215 cultivable, 11,133 under groves, and the remainder barren. Government land revenue, £10,237, or at an average rate of 2s. 6¼d. per acre. Pop. (1869), 87,929 Hindus, 9214 Musalmáns—total, 97,143, viz. 48,101 males and 49,042 females. Number of villages, 183; average density of population, 660 per square mile.

Iskardoh (or *Skardo*).—Principal town of Bulti State, Kashmír, Punjab; situated in lat. 35° 12′ N., and long. 75° 35′ E., on an elevated plain, 7700 feet above sea level, at the bottom of a valley, surrounded by lofty mountains. The fort occupies a rock of gneiss at the confluence of the Indus with its great tributary the Singhar. Around the cliff rises to a sheer height of 800 feet above the river, and presents a perpendicular face on every side, except the west, where it slopes rapidly toward the plain. Vigne compares the site to that of Gibraltar, and believes that it could be rendered equally impregnable. The castle of the late princes of Bultistán crowns a small natural platform, 300 feet above the river, and shows by its construction that defence rather than comfort was its chief object. The collection of straggling huts below the fort and castle scarcely deserves the name of town. Ahmad Sháh, the last native prince, bore an excellent character as a just and moderate ruler; but his country finally fell into the hands of Gholáb Sinh of Kashmír.

Islámábád.—Chief town of Chittagong District, Bengal.—*See* CHITTAGONG.

Islámábád.—Town in Kashmír State, Punjab; lies in lat. 33° 43′ N., long. 75° 17′ E., on the north bank of the Jhelum (Jhílam), here about 80 yards wide, and crossed by a wooden bridge. The town crowns the summit of a long low ridge, extending from the mountains eastward. Below, a low reservoir contains a spring of clear water, slightly sulphurous, from which volumes of gas continually arise. A legend connects its origin with a creative act of Vishnu. The water swarms with sacred fish. Large manufacture of Kashmír shawls, also of chintzes, cotton, and woollen goods. The original name of Anat Nag, derived from the holy reservoir, gave place to that of Islámábád in the 15th century.

Islámábád Bijhauli.—Village in Unao District, Oudh; about 20 miles from Safipur, and 27 from Unao town, in a north-westerly direction.

Pop. (1869), 2351 Hindus and 144 Muhammadans—total, 2495, residing in 454 houses. Government school. Seat of 3 small annual religious trading fairs.

Islámgarh (or *Nohar*).—Fort in Baháwalpur State, Punjab, close to the borders of Rájputána. Lat. 27° 50′ N., long. 70° 52′ E.; lies on the route from Khánpur to Jáisalmír (Jeysulmere), 65 miles north of the latter town. Thornton states that it consists of an ancient structure of small bricks, about 80 yards square, with lofty ramparts, from 30 to 50 feet in height. The situation is unfavourable for defence, being surrounded on every side by sandhills of considerable elevation. A few buildings occupy the enclosed space, while some straggling houses lie without the wall. The fort formerly belonged to Jáisalmír (Jeysulmere), but was wrested from the Rájputs by the Khán of Baháwalpur.

Islámkot.—Municipal town in the Thar and Párkar Political Superintendency, Sind. Lat. 24° 41′ 30″ N., and long. 70° 13′ E.; pop. (1872), 862; municipal revenue (1873-74), £48; rate of taxation, 1s. 1½d. per head of municipal population. An old native fort stands outside the town.

Islámnagar.—Agricultural town in Budáun District, North-Western Provinces. Lat. 28° 19′ 45″ N., long. 78° 46′ E.; pop. (1872), 5424. Lies on the road from Bisauli to Sambhal, 12 miles west of the former town. Government charitable dispensary.

Itá.—Small detached group of hills in the centre of Sylhet District, Assam. Area, about 49 square miles; height, 600 feet above sea level. The slopes are overgrown with dense jungle and brushwood.

Itáwa.—Estate in Ságar (Saugor) District, Central Provinces; 38 miles north-west of Ságar, containing 44 villages, on an area of 77 square miles. At the cession of Ságar to the British Government by the Marhattás in 1818, this tract, which then consisted of 46 villages, yielding £896 per annum, was assigned rent-free for life to Rám Bháú, a Marhattá Pandit, in lieu of Malhárgarh and Kanjiá, the former being an estate in the extreme north-west of Ságar District, beyond the Betwa river, which was made over to Sindhia. At the late settlement, 16 villages were awarded to the *tálukdár* in proprietary right, and in 28 he received the superior proprietary right only. The chief village contained (in 1870) 371 houses, with a population of 1402. It is said to have been founded by Indrajít, a Bundelá officer of Akbar, and at the beginning of the 18th century was held by Díwán Anup Sinh, Rájá of Pauna, who built the small fort and embellished the town. In 1751, he made over the place to the Peshwá, in return for assistance against the Bundelás. The Marhattás improved the fort and town, and some of the buildings contain remarkably fine stonework and carving. The chief sales at the weekly market consist of grain and native cloths. A boys' school has been lately established.

Itkuri.—Coal-field in Hazáribágh District, Bengal; situated in the valley of the Moháni river. Greatest length, 15 miles; average breadth, 1½ mile. The coal is only worth working for rough purposes, and the average is considered to contain more than 30 per cent. of ash. The coal-bearing area is very small, but its position and the metalled way connecting it with the Grand Trunk Road are points in its favour. An approximate estimate gives the amount of coal available at about a million and a half to two millions of tons.

Itriá Gadhala. — One of the petty States in North Káthiáwár, Bombay. It consists of 2 villages, with 1 independent tribute-payer. The revenue is estimated at £400; tribute of £25 is paid to the British Government, and £8 to the Nawáb of Junágarh.

Ittamakkalá (*'Date-Palm Place'*—Telugu).—Town in Ongole *táluk*, Nellore District, Madras. Lat. 15° 22′ 30″ N., and long. 80° 9′ 11″ E.; houses, 693; with (1871) 3811 inhabitants. Seaport with large coasting trade, and the second customs station in the District.

Itwád.—One of the petty States in Rewá Kánta, Bombay. Area, 4½ square miles. There are four chiefs. The revenue is estimated at £100, and tribute of £60 is paid to the Gáekwár of Baroda.

Iviker (or *Aibiká*).—Town in Travancore State, Madras; situated on the sea-coast in lat. 8° 57′ N., and long. 76° 37′ E., at the mouth of the river Aibiká, which is navigable only by small craft. Export trade in timber, spices, and lac. Distance from town of Quilon, 5 miles.

J

Jabalpur (*Jubbulpore*).—One of the four Divisions of the Central Provinces, comprising the Districts of JABALPUR, (SAUGOR) SAGAR, DAMOH, SEONI, and MANDLA. Area, 18,693 square miles; pop. (according to the Parliamentary Abstract for 1878), 1,839,100.

Jabalpur (*Jubbulpore*).—A British District in the Chief Commissionership of the Central Provinces, lying between 21° 12′ and 23° 56′ N. lat., and between 76° 40′ and 81° 35′ E. long. Bounded on the north by Panna and Maihar; on the east by Rewah; on the south by the Districts of Mandla, Seoní, and Narsinhpur; and on the west by Damoh District. Population in 1872, 528,859; area, 3918 square miles. The administrative headquarters of the District are at JABALPUR, which is also the principal town.

Physical Aspects. — Jabalpur consists of a long, narrow plain, running north-east and south-west, and shut in on all sides by highlands, forming an offshoot from the great valley of the Narbadá (Nerbudda). This plain is covered in its western and southern portions by a rich alluvial deposit of black cotton-soil, merging towards the north-east

in an undulating tract of metamorphic and lateritic formation. The south-eastern parts, lying parallel with the black soil country, belong to the great trappean area of Central India. Granitic rocks occupy larger areas than elsewhere. Near Jabalpur town the granite forms a range of low hills running from the Narbadá towards the north-east, and attaining its highest point near the ancient town of Garhá, where it is crowned by a ruined building called the Madan Mahál. Here the hilly area of the granite extends over about 2 miles, consisting chiefly, says Mr. J. G. Medlicott, of 'a porphyritic syenite, whose matrix is a mixture of glassy quartz, with pale pink or pale green felspar, along with a small proportion of hornblende, and which contains embedded crystals of dull lead-grey felspar (adularia), about one-third of an inch long, and in great number, frequently forming a large proportion of the mass.' At Jabalpur itself, the soil is sandy, and water plentiful near the surface; so that even in the sultry blaze of an Indian summer there still appear a freshness and verdure such as no station situated on basaltic soil can enjoy. The highlands in the distance relieve the monotony of the fertile and well-wooded plain. On the north and west the Bhánrer Hills, which belong to the Vindhyán sandstone series, and the low rocky Káimur chain, on the east the Bhitrígarh heights, and on the south spurs and ridges projecting from the Gondwána range, ring in the District with a border of picturesque scenery, in which hill and valley, forest and stream, succeed each other in rapid variety. The Bhánrer and Káimur chains form a watershed, the northern side of which is drained by the Ganges. The other and more important watershed of the District starts from the Bhitrígarh range, and crosses the Great Northern Road between Sleemanábád and Sihora. Rain falling to the north and east finds its way into tributaries either of the Ganges or the Jumna, while rivulets rising on the south and west swell the rapid stream of the Narbadá (Nerbudda). Thus the traveller from Jabalpur to Mírzápur passes over the great watershed between the Gulf of Cambay and the Bay of Bengal. The principal rivers are the Mahánadi (not to be confounded with the more important river of that name), which, rising in Mandla District, flows in a northerly direction till near Bijerághogarh it bends towards the east and falls into the Soane (Son); the Gurayyá, between Jabalpur and Damoh; the Patná, which separates the District from Panná; and the Hiran, which flows into the Narbadá at Sánkal. But besides these streams, the Narbadá flows through the District for 70 miles from east to west, passing about 9 miles below Jabalpur town through the famous Marble Rocks. There the river, which above this point had attained a breadth of 100 yards, flings itself tumultuously from a rocky ledge with a fall of 30 feet, called Dhuán-dhár or the Misty Shoot, and then flows on in a deep

and narrow channel nearly 2 miles long, through a mass of beautifully white limestone. On each side a dazzling row of marble bluffs, rising sheer up to a height of 100 feet, confines the swirling waters.

History. — The early history of Jabalpur is unknown; but inscriptions record the existence during the 11th and 12th centuries of a local line of princes of that Haihai race which is so closely connected with the history of Gondwána. In the 16th century, Sangráni Sá, the Gond Rájá of Garhá Mandla, extended his power over fifty-two Districts, including the present Jabalpur. During the minority of his grandson, Prem Náráin, the Gond Queen Durgávatí administered the government. The rule of a woman appeared a favourable time for aggression; and Asaf Khán, the Viceroy of Kara Mánikpur on the Ganges, sought and obtained permission to conquer the Garhá principality. The decisive battle was fought under the castle of Singaurgarh, and Asaf Khán proved victorious. Stung by her defeat, the high-spirited Durgávatí put an end to her life. At first Asaf Khán held Garhá as an independent ruler, but eventually he resigned his pretensions, and submitted himself to the Emperor Akbar. In the list of Akbar's dominions given in the *Aín-i-Akbarí*, Garhá appears as a division of the Government of Málwá. The Delhi power, however, enjoyed little more than a nominal supremacy; and the princes of Garhá Mandla maintained a practical independence until their subjugation by the Governors of Ságar (Saugor) in 1781. Though Bakht Buland never brought Jabalpur under his sway, this District, like the rest of Gondwána, felt the effects of his liberal and enlightened policy; and it was in his time that the industrious Lodhís and Káyasths settled here. In 1798, the Peshwá granted Mandla and the Narbadá valley to the Bhonslá Princes of Nágpur, who continued to hold the District until the British occupied it after an engagement on the 19th December 1817. The provisional Government then formed appointed Raghunáth Ráo, Rájá of Inglíá, acting *subáhdár;* and a petition which he presented throws a curious light upon the Marhattá system of rule. The *subáhdár* inquired whether all widows were still to be sold, and the purchase money paid into the treasury? whether all persons receiving any moneys through an order, or by the interposition, of any person in office, should still pay one-fourth of such moneys to the State? and whether any person selling his house or his daughter should still pay to the State one-fourth of the purchase money? These rules the British had found in full force; and one of the earliest acts of the provisional Government was to order the release of a young woman named Pursiá, who had been sold by auction for £1, 14s. At first the Ságar and Narbadá territories were governed by a Commissioner in subordination to the Resident at Nágpur. Subsequently these Districts were separated from the Nágpur Agency,

and in 1843 Lord Ellenborough recast the whole system of administration. The chief feature of his reforms was the separation of the judicature from the departments of revenue and police. The system which he instituted lasted until November 1861, when Jabalpur was formed into a District of the Central Provinces, under the control of a Chief Commissioner resident at Nágpur.

Population.—A rough enumeration in 1866 returned the population of Jabalpur at 620,201. The more careful Census of 1872 disclosed 528,859. The latest estimate of 1877 indicates a total of 555,796. The Census of 1872 still remains, however, the only basis for a detailed examination of the people. It disclosed a population of 528,859 persons, on an area of 3918 square miles, residing in 2281 villages or townships and 114,862 houses; persons per square mile, 134·98; villages per square mile, 0·58; houses per square mile, 29·32; persons per village, 231·85; persons per house, 4·6. Classified according to sex—males, 270,237; females, 258,622. According to age—the male children in 1877 numbered 98,307; the female children, 88,930. Ethnical division in 1877—Europeans, 776; Eurasians, 201; aboriginal tribes, 105,349; Hindus, 416,770; Muhammadans, 27,282; Buddhists and Jains, 3654. The most numerous of the aboriginal tribes (in 1872) are the Gonds, 64,195, and Kols, 21,918; the remainder consisting of Bharias, Báigas, etc. Among the Hindus, in 1872, Bráhmans numbered 50,334; the mass of the Hindu population consisting of Lodhís, 39,388; Kurmís, 28,579; Ahírs or Gaulis, 24,411; Chamárs, 24,707; Dhimars, 24,545; and other cultivating or inferior castes. Native Christians, in 1877, 759. The language commonly spoken is the Hindí dialect known as Baghelá, a peculiarity of which is the elision of nearly all short vowels; but Urdú is generally understood, and is the language of the courts. No town in Jabalpur District has a population exceeding 5000, with the important exception of JABALPUR, the District capital (pop. 55,188). Townships of 1000 to 5000 inhabitants, 33; from 200 to 1000, 712; villages of less than 200 inhabitants, 1535.

The only municipalities are—JABALPUR, with a population (in 1877) within municipal limits of 68,124; SIHORA, pop. 4230; and MURWARA, pop. 3030.

Agriculture.—Of the total area of 3918 square miles, only 1320 are cultivated, and of the portion lying waste, 1308 are returned as cultivable. Of the cultivated land, 3949 acres are irrigated—entirely by private enterprise. The Government assessment is at the rate of 1s. 6d. per acre of cultivated land, and 1s. 8d. on the cultivable land. Cereals constitute the principal crop, 345,000 acres being devoted in 1876 to wheat, and 368,749 to inferior food grains. The production of rice continues to increase, and in the same year occu-

pied 155,894 acres. On the other hand, the area under cotton has fallen off from 28,027 acres in 1872, to 22,565 in 1876. During the same period, the quantity of land employed in the growth of oil-seeds has nearly doubled, being returned for 1876 at 91,362 acres. The District is rich in garden produce, raising, in addition to the ordinary Indian fruits, peaches and pine-apples and strawberries, as well as potatoes of an excellent quality. Both the plain country and the highlands are well wooded; and the forest produce is of considerable value, consisting of lac and gum, and silk from the cocoons of the *tasar* moth. The timber has suffered greatly from fires caused either by accident or by the annual burnings of the hill tribes; since, where these conflagrations do not destroy, they effectually scar the bark of the young teak tree. The Forest Department now use every means to prevent this destruction; and tracts of forest land in the Sangrámpur valley, and on the west bank of the Mahánadi in Bijerághogarh, have been marked off as State reserves.

The Census of 1872 showed a total of over 6600 proprietors, of whom 1876 were classed as 'inferior.' The tenants numbered 56,564, of whom nearly 20,000 had either absolute or occupancy rights, while 36,601 were tenants-at-will. The rent rates per acre in 1876 for the different qualities of land are returned as follows:—Land suited for wheat, 4s. 6d.; for inferior grains, 1s. 3d.; for rice, 3s. 6d.; for cotton, 3s.; for oil-seeds, 1s. 6d.; the average produce per acre being wheat, 700 lbs.; inferior grain, 680 lbs.; rice, 420 lbs.; cotton, 44 lbs.; and oil-seeds, 194 lbs. The ordinary prices of produce in the same year were as follows:—Wheat, 4s. 1d. a cwt.; rice, 6s. 10d. a cwt.; cotton, 54s. 8d. a cwt.; and linseed, 7s. a cwt. The daily wages for skilled labour averaged 9d.; for unskilled labour, 4d.

Natural Calamities.—The famine of 1869, and the disease which accompanied and followed it, visited this densely populated District with greater severity than any other part of the Central Provinces. On comparing the Census of 1872 with that for 1866, the population of Jabalpur is found to have decreased by 70,358; and this diminution must to a great degree be accounted for by the calamities of that unfortunate year. It may be hoped that the improved means of communication in the District will hereafter avert the extremity of famine by importation from other tracts.

Commerce and Manufactures.—The trade of the District centres at JABALPUR town, which is one of the most important railway centres in India. One of the chief manufactures is iron. The most productive mines are at Dabwára, Agariá, and Jautí, in which the ore (hydrous peroxide) is accumulated along fault lines. But perhaps the most important mines are those of the Kumbhí *parganá*, about 30 miles north-east of Jabalpur, where the ore occurs in the form of a black iron

sand, known as Dháo. This supplies the iron worked up at Panágur, the chief seat of the iron industry in the District. At Katangi and Barelá gun-barrels are made, and Jaberá produces knives of good quality. Coal is found at Rámghát, Bheraghát, and near Singápur on the Mahánadi; but the most promising seam occurs near Lametághát. The limestone of the hills at Bheraghát has a high reputation; and Murwára supplies a limestone said to be suited for lithographic purposes. The other manufactures of the District consist of brass utensils, cotton cloth, and leather articles. Tents and carpets also are made at Jabalpur, both in the school of industry and by private persons. There were, in 1877, 303 miles of roads in the District, entirely of the second class. The best are those to Mírzápur on the north, and Seoni on the south, the former of which is one long avenue of trees. Fair-weather roads lead to Ságar and to Narsinghpur; and the route to Mandla has lately been improved. The District enjoys no means of communication by water; but the railroad amply compensates for this deficiency.

Jabalpur town is perhaps the most important railway station in India, being the junction of the Great Indian Peninsula and East Indian systems. The Jabalpur branch of the East Indian line runs north-east to Allahábád. Its total length is 224 miles. This branch was opened for traffic on 1st June 1867. Up to that date the capital outlay had amounted to about 2 million sterling. In the calendar year 1877, the gross receipts were £426,148, and the gross expenses £158,830, or a proportion of 37·27 per cent. The net earnings were £267,318. The traffic returns show a total of 353,850 passengers carried in that year, and 438,153 tons of goods and minerals. The main line of the Great Indian Peninsular runs south-west to Bombay, following for some distance the valley of the Nerbudda. This line was not opened throughout until 1872. It now forms the regular channel of communication between Bombay and Calcutta, and Bombay and the north-west. The railway crosses the rocky bed of the Nerbudda near Jhánsighát by a viaduct 371 yards long.

Jabalpur shares with Nágpur the distinction of owning the only periodicals published in the Central Provinces. Every week the *Indian Railway Service Gazette*, and every month the *Masonic Record of Western India* issue from the Indian Railway Service Press; while the lithographic press maintained by the Educational Department, in addition to schoolbooks and departmental returns, prints every month nearly a thousand copies of a newspaper in Hindí, Urdu, Marathí, and Uriyá.

Administration.—In 1861, Jabalpur was formed into a separate District of the British Government of the Central Provinces. It is administered by a Deputy Commissioner with Assistants and *tahsíldárs*. Total revenue in 1876-77, £76,013, of which the land yielded

£57,188. Total cost of District officials and police of all kinds, £9578; number of civil and revenue judges, 10; magistrates, 15; maximum distance from any village to the nearest court, 40 miles; average distance, 18 miles. Number of police, 702, costing £10,142, being 1 policeman to every 5·4 square miles and to every 731 inhabitants. The daily average number of convicts in jail in 1876-77 was 991, of whom 63 were females. The cost of the jail was £5278. The number of Government or aided schools in the District under Government inspection was 125, attended by 7015 pupils. The Jabalpur High School has proved most successful; and at the training school for mistresses an attempt has been made to solve the difficult problem of providing a teaching staff for girls, by inducing the wives of normal school students to qualify. In 1877, there were 13 such women students under training. The three municipalities contain an aggregate population of 75,384 persons; the total municipal income in 1876-77 was £9271, and the expenditure, £11,221; average rate of municipal taxation, 1s. 10½d. per head of the population.

Medical Aspects. — The climate is healthy, and the temperature extremely moderate. Near Kundam the thermometer has been recorded as low as 26°. In 1876, the readings in the shade at the civil station were as follows:—May, highest 108·8, lowest 77·2; July, highest 85·2, lowest 74·3; December, highest 77·8, lowest 52·1. As a rule, the hot weather extends only over two months, and, except immediately before the rains, is not oppressive. The rains last from early in June until the latter part of September. The prevailing winds are westerly. In 1876, the rainfall at the civil station was returned at 56·63 inches, being considerably above the average. February and March rarely pass without the *rabí* crops suffering from hailstorms. The prevailing diseases of the District are fevers and dysentery, the former being severest from the beginning of the rains to the end of November. Cholera and small-pox are occasional visitants, and influenza at times assumes the character of an epidemic. During the five years ending 1875, the death-rate per thousand of the population averaged 24·82; in 1876, it was as high as 42·72. During the same year, 8 charitable dispensaries afforded medical relief to 35,795 in-door and out-door patients.

Jabalpur (*Jubbulpore*).—Southern *tahsíl* or revenue Subdivision of Jabalpur District, Central Provinces; situated between 22° 51′ and 24° 5′ N. lat., and between 79° 22′ and 80° 58′ E. long. Pop. (1872), 267,785, residing in 1069 villages or townships and 56,401 houses, on an area of 1546 square miles.

Jabalpur (*Jubbulpore*).—Headquarters of Jabalpur District, Central Provinces. Lat. 23° 11′ N., long. 79° 59′ E. Situated in a rocky

basin, at an elevation above sea level of about 1458 feet; 165 miles north-east from Nágpur, and 108 miles south-east from Ságar (Saugor). Pop. (1877), 55,188, almost entirely Hindu. The numerous gorges in the surrounding rocks have been taken advantage of to surround the town with a series of lakes, which, shaded by fine trees, and bordered by fantastic crags and massy boulders, add much beauty to the suburbs. The town itself is modern, and laid out in wide and regular streets. The principal approach lies near a public garden, containing a fine tank surrounded by groups of temples. A streamlet called the Umtí separates the civil station and cantonment from the town; but, though the climate is mild, a swampy hollow beneath renders the site unhealthy for Europeans. Jabalpur contains a school of industry, where Thug and Dacoit approvers and their families are employed in one of the largest manufactories of tents and carpets in India. The garrison consists of a battery of artillery, the headquarters and six companies of a European infantry regiment, a regiment of Native infantry, and a squadron of Native cavalry. The Bank of Bengal has a branch at Jabalpur.

The opening of the railway system has immensely developed the trade of Jabalpur, which has now become the most important centre of commerce in the Central Provinces after Kampti. In 1875-76, the total imports into Jabalpur were valued at £567,000, the chief items being piece-goods, £87,000; wheat, £67,000; sugar, £35,000; metals, £32,000; salt, £26,000; rice, £24,000; country cloth and oil-seeds, £21,000 each; spices, £20,000; *ghí* and oil, £17,000; inferior grains, £10,000; lac, £9000; raw cotton, £8000. The total exports were valued at £160,000, principally consisting of raw cotton, £45,000; wheat, £32,000. The great bulk of the imports, including piece-goods, European goods generally, and sugar, come from the north; wheat and rice, from the eastern table-land of Chhattísgarth. The cotton and wheat are despatched westward to Bombay. The lac is brought in from the Native States in the north and north-west. It is exported in the raw state as stick-lac, for the factory at Jabalpur for the preparation of lac-dye has recently suspended operations.

Jabria Bhíl.—A petty State belonging to a guaranteed Girásia chief, under the Bhopál Agency, the Central India Agency, and the Government of India. On the settlement of Málwá, Rájan Khán, brother of the notorious Pindárí marauder, Chítú, was allowed a pension, afterwards commuted for an assignment of lands in Sujáwalpur for life. The grant consisted of a *jágír* of three villages—Piplánagar, Kajúri, and Jabria Bhíl—and an *istimrárí* farm (that is, a farm assessed in perpetuity) of Dungria and Jabrí at a rent of Rs. 500 (say £50). At his death, in consideration of his good conduct during the latter part of his life, the grant was perpetuated in his family, and divided among his five sons;

of these, Rájá Bakhsh received Jabria Bhíl and Jabrí. He died in 1874, and was succeeded by his son, Jamal Bakhsh, the present holder.

Jabuah.—State in Málwá, Central India.—*See* JHABUA.

Jacobábád.—*Táluk* of the Frontier District of Upper Sind. Lat. 27° 55′ 30″ to 28° 25′ 45″ N., and long. 67° 59′ to 68° 36′ E.; area, 475 square miles, containing 4 *tapás* and 28 villages; pop. (1872), 35,545; revenue (1873-74), £10,130, of which £9670 was derived from imperial and £459 from local funds.

Jacobábád.—Municipality and chief town of the Frontier District of Upper Sind. Lat. 28° 17′ N., and long. 68° 29′ 0″ E.; pop. (1872), including the military camp, 10,954, of whom 5355 belong to the town. Of the whole, 7058 are Muhammadans and 3793 Hindus. The municipal revenue in 1873-74 was £2194, the rate of local taxation being 4s. 2d. per head. The town was planned and laid out, in 1847, by General John Jacob, on the site of the village of Khángarh. It is now the headquarters of the large military force of the Upper Sind frontier, and also of the civil administration. It contains therefore a considerable European population, and possesses all the usual public offices and institutions of an important station. In addition to the cantonments, civil and judicial courts, dispensary, jail, post and telegraph offices, etc., it has also a Residency and lines for the accommodation of trade caravans (*káfilas*) from Central Asia. The civil court, which is under the Shikárpur jurisdiction, was established in 1870, the sessions judge of Shikárpur visiting it twice a year. In recent years, the town has become exposed to destructive inundations.

Jafarábád.—Native State within the Political Agency of Káthiáwár, in the Province of Guzerat, Bombay. Lat. 20° 50′ to 20° 59′ N., and long. 71° 18′ to 71° 29′ E.; 170 miles south of Ahmedábád, 150 south-west of Baroda, and 165 north-west of Bombay. Estimated area, 53 square miles; 12 villages; pop. (1872), 10,251; estimated gross revenue, £3200. Stone is quarried for building purposes. The crops are cotton and wheat. Coarse cotton cloth is manufactured. The State of Jafarábád is subject to the Abyssinian chief of Janjirá, a territory situated on the coast of the Konkan, 192 miles south-east of Jafarábád and 44 miles south of Bombay. In Káthiáwár, the Nawáb of Janjirá ranks as a second-class chief. The present (1875) ruler, Ibráhim Khán, administers his territory himself, and maintains a military force of 200 men.

Jafarábád.—Chief town of the State of the same name in Káthiáwár, in political connection with the Bombay Presidency. Lat. 20° 52′ N., and long. 71° 25′ E.; pop. (1872), 4903. Jafarábád has great natural advantages for trade, being situated about a mile from the

sea, on the estuary of a little river called the Ranái, which is the most accessible river on the coast of Káthiáwár, with no bar and an easy entrance. The commerce of the port is considerable.

Jafarganj.—Town in Tipperah District, Bengal; situated on the Gumti, and the seat of considerable river traffic.

Jafling.—Market village at the south foot of the Khási Hills, Assam; frequented by Khási and Synteng traders.

Jagádhri.—North-western *tahsíl* of Umballa (Ambálá) District, Punjab.

Jagádhri.—Modern municipal town in Umballa (Ambálá) District, Punjab, and headquarters of Jagádhri *tahsíl.* Pop. (1868), 11,676, consisting of 9220 Hindus, 2319 Muhammadans, and 137 Síkhs. Situated in lat. 30° 10′ N., and long. 77° 20′ 45″ E., a little west of the river Jumna (Jamuná), thirty-seven miles south-east of Umballa city, and three miles north of the Sind, Punjab, and Delhi Railway. Prior to the Síkh invasions, Jagádhri was a mere village; but Rái Sinh of Búria, the Síkh conqueror, encouraged the commercial and manufacturing classes to settle on the spot, so that a considerable trade rapidly sprang up. Destroyed by Nádir Sháh during one of his incursions, but rebuilt in 1783 by Rái Sinh. Lapsed to the British Government, together with the territory whose capital it formed, in 1829. Imports of copper and iron from the hills, as also from Calcutta and Bombay. Considerable manufacture of metal work. Vessels and tools exported into the North-Western Provinces and throughout the Punjab. Refinery of borax, brought from the hills, and exported to Bengal. Manufacture of oxide of lead, for use by goldsmiths and in native medicines. *Tahsíli*, police office, rest-house. A native banker supplies a dole of half a *ser* (about 1 lb.) of flour to travellers or paupers. Municipal revenue in 1875-76, £1351, or 2s. 1¾d. per head of population (12,540) within municipal limits.

Jagalúr.—Municipal village in Chitaldrúg (Chitaldroog) District, Mysore State. Lat. 14° 31′ N., long. 76° 24′ E.; 22 miles north-west by road from Chitaldrúg. Pop. (1871), 2430, mostly Lingáyats; municipal revenue (1874-75), £34; rate of taxation, 3d. per head. Houses built of an iron-shot slaty stone, and flat-roofed; large tank. Headquarters of the Kankuppa *táluk.*

Jagan.—Town in the Sukkur-Shikárpur Deputy Collectorate, Shikárpur District, Sind. Pop. (1872), 2556, viz. Muhammadans (chiefly of the Bháya tribe), 2167, and Hindus, 389.

Jagannáth.—Temple, Purí District, Bengal.—*See* PURI.

Jagatsinhpur.—Subdivision of Cuttack District, Bengal; situated between 20° 2′ 45″ and 20° 24′ N. lat., and between 85° 59′ 30″ and 86° 18′ E. long. Area, 732 square miles; townships, 1430; houses,

58,054. Pop. (1872), 336,890, of whom 329,648, or 97·8 per cent., are Hindus. Proportion of males, 49·5 per cent.; average density of population, 460; number of townships per square mile, 1·95; persons per township, 235; houses per square mile, 79; persons per house, 5·8. This Subdivision comprises the two police circles (*thánás*) of Jagatsinhpur and Jagannáthpur. It contained one court in 1870-71, a regular police force of 114 men, and a village watch 1276 strong; the cost of Subdivisional administration was returned at £6371, 12s.

Jagatsinhpur.—Headquarters of Subdivision of same name, Cuttack District, Bengal; situated on the Máchhgáon Canal, in lat. 20° 15′ 50″ N., and long. 86° 12′ E. Pop. (1869), estimated at 4732; not returned separately in the Census of 1872.

Jagdalpur.—Chief town of BASTAR Dependency, Central Provinces, and residence of the Rájá. Lat. 19° 6′ N., and long. 82° 4′ E. The place is a collection of grass huts, surrounded by a mud wall and deep ditch, with one face resting on the Indrávatí, here a stream about a hundred yards wide. The Muhammadans reside chiefly in the suburbs. A large tank lies close to the town; and the country is open, well cultivated, and dotted with villages and groves. Jagdalpur is 40 miles from the capital of the Jáipur (Jeypore) State, where there is an Assistant Agent subordinate to Vizagapatam, a police officer, and a strong police force.

Jagdispur.—Municipal town in Sháhábád District, Bengal. Lat. 25° 28′ 5″ N., and long. 84° 28′ 1″ E.; pop. (1872), 9400; gross municipal revenue (1876-77), £122; rate of taxation, 3⅛d. per head of population. The residence of Kuár Sinh, a Rájput chief who threw in his lot with the mutineers of 1857.

Jagdíspur.—*Parganá* in Musáfirkhána *tahsíl*, Sultánpur District, Oudh. During the Bhar supremacy, this part of the country consisted of two *parganás*, Sáthan and Kishni. On the extirpation of the Bhars by the Musalmáns, these divisions were amalgamated, and the headquarters fixed at Jagdíspur, which gave its name to the *parganá*. Area, 155 square miles, or 99,086 acres, of which 50,948 acres are cultivated and 19,163 acres available for cultivation. About one-half of the cultivated area is irrigated. Government land revenue, £7209; average incidence, 2s. 3¼d. per acre. Pop., according to the Census of 1869, but allowing for subsequent transfers—Hindus, 79,956; Muhammadans, 22,227; total, 102,183: average density, 639 per square mile. Trade in grain, cloth, and other country produce, carried on chiefly by means of the Rái Bareli and Faizábád (Fyzabad) road, but also by the Gumti, which flows along the western boundary. Eleven villages with schools; 2 post offices.

Jagdíspur.—Town in above *parganá*, Sultánpur District, Oudh. Lat. 26° 27′ N., long. 81° 40′ E. Of no importance except as the head-

quarters of the *parganá*. Pop. (1869), 2593, residing in 562 houses. Small market, police station, Government school.

Jaggayyapet (*Jaggiapettá*).—Town in Nandigama *táluk*, Kistna District, Madras. Lat. 16° 52′ N., long. 80° 9′ E.; houses, 2086; pop. (1871), 9150, of whom at least 25 per cent. are merchants and their families. A prosperous trading and weaving town on the main road between Haidarábád (Hyderabad) and Masulipatam, and near the frontiers of the Nizám's Dominions; a position which until recently laid it open to the plundering inroads of Rohillá bands. The traders are chiefly Márwári settlers from the Haidarábád country, and the chief staple is opium. Jaggayyapet is the station of a sub-magistrate, and is walled in by a decayed mud embankment. It was formerly called Betavale, until one of the Vasa Reddi family built a fort here, and named it after his father, Jaggia. Geologically the place is of interest as the extreme north-east corner of the great Cuddapah-Kurnool rock series, and as the supposed site of a great coal-field.

Jágír (literally, '*A Grant of Landed Estate by the Sovereign Power*'). —Tract of country corresponding almost precisely with the present revenue District of CHENGALPAT, Madras. The first important territorial possession of the East India Company in Southern India. Granted by the Nawáb of Arcot in return for the services rendered to him and his father by the Company in 1760, and confirmed by a *sanad* or deed of grant from the Emperor Sháh Alam in 1763.

Jagráon.—Western *tahsíl* of Ludhiána District, Punjab. Lat. 30° 33′ to 30° 59′ N., and long. 75° 24′ to 75° 44′ E.

Jagráon.—Municipal town in Ludhiána District, Punjab, and head-quarters of the *tahsíl* of the same name. Pop. (1868), 7105, consisting of 4257 Hindus, 2765 Muhammadans, 79 Síkhs, and 4 'others.' Situated in lat. 30° 47′ 20″ N., and long. 75° 30′ 45″ E., on the Ludhiána and Firozpur (Ferozepore) road, 29 miles south-west of the former town. Belonged under the Empire to the Ráis of Ráikot, and made over by Ranjít Sinh in 1806 to Fateh Sinh Ahluwália. Brisk trade in grain and other country produce; the mercantile community is, however, migratory. *Tahsíli*, police station, school-house, *sarái*, dispensary. Municipal revenue in 1875-76, £576, or 1s. 7⅝d. per head of population within municipal limits.

Jahálu.—Town in Bijnaur District, North-Western Provinces.—*See* JHALU.

Jahánábád.—Subdivision of Gayá District, Bengal. Lat. 24° 59′ 15″ to 25° 19′ N., and long. 84° 30′ to 85° 16′ E. Area, 599 square miles; townships, 1083; houses, 56,494. Pop. (1872), 354,220, of whom Hindus number 319,292, or 90·13 per cent.; Muhammadans, 34,899, or 9·85 per cent.; Christians, 20; and 'others,' 9. Proportion of males, 49·40 per cent.; average density of population, 591·35 per square mile;

inhabitants per village, 327·07; houses per square mile, 94·31; inmates per house, 6·27. This Subdivision comprises the two police circles of Arwal and Jahánábád. It contained (1869) two courts, 114 regular police, and 1249 village watchmen; the cost of Subdivisional administration was returned at £3253, 7s.

Jahánábád.—Headquarters of Jahánábád Subdivision, Gayá District, Bengal. Lat. 25° 13′ 10″ N., long. 85° 2′ 10″ E.; situated on the Murahar or Dardha river, and on the Patná branch road, 31 miles due north of Gayá. Pop. (1872), 21,022; gross municipal revenue (1876-77), £100; rate of taxation, 1d. per head of municipal population; local police, 15 men. Contains the usual public buildings, lock-up, *dák* and inspection bungalows, dispensary, and post office. Three brick houses, said to have been built by the Dutch, are all that now remain of a once flourishing trade. In 1760, Jahánábád formed one of the eight minor branches connected with the Central Cloth Factory of the East India Company at Patná. Dr. Buchanan-Hamilton states that in his time (1807-13) the town contained about 700 houses, a cloth factory, and a native agency for the manufacture of saltpetre. During the last twenty years, since the introduction of Manchester goods, the trade of this town in cotton cloth has entirely ceased; but large numbers of the Juláha or weaver class still live in the neighbourhood.

Jahánábád.—Subdivision of Bardwán District, Bengal. Lat. 22° 45′ 30″ to 23° 12′ N., and long. 87° 28′ 45″ to 88° 3′ 30″ E.; area, 641 square miles; townships, 1127; houses, 93,465. Pop. (1872), 477,475, of whom 410,617, or 86 per cent., are Hindus; 66,437, or 13·9 per cent., Muhammadans; 'others,' 421, or ·1 per cent. Proportion of males, 49·3 per cent.; average density of population, 745 per square mile; villages per square mile, 1·76; persons per village, 424; houses per square mile, 146; persons per house, 5·1. This Subdivision comprises the four police circles of Jahánábád, Goghát, Kotalpur, and Ráiná. In 1870-71, it contained one court, a regular police force of 162, and a village police force of 2877 men; the cost of Subdivisional administration was returned at £2418, 10s.

Jahánábád.—Headquarters of Subdivision of same name in Bardwán District, Bengal; situated on the river Dhálkisor in lat. 22° 53′ N., long. 87° 49′ 50″ E. Pop. (1872), 13,409; gross municipal revenue (1876-77), 211; rate of taxation, 3½d. per head of municipal population. Dispensary.

Jahánábád (or *Korá*).—Town in Fatehpur District, North-Western Provinces. Lat. 26° 6′ 2″ N., and long. 80° 24′ 18″ E. Remarkable chiefly for its handsome architectural remains, which include the Báradari of Ráo Lál Bahádur, a large enclosed garden with pleasure houses built towards the close of the last century under the Oudh Wazírs; the Thakurdwára, a fine modern edifice; the Sorahi or mausoleum, a mile

west of the town; and the *sarái*, a magnificent building with ancient walls and gates.

Jahángírábád.—Agricultural town in Bulandshahr District, North-Western Provinces. Lat. 28° 24′ N., long. 78° 8′ 45″ E.; area, 123 acres; pop. in 1872, 9408, including 6914 Hindus and 2404 Muhammadans. Situated in a depression of the Doáb plain, distant from Bulandshahr 15 miles east. Founded by the Badgújar Rájá, Ani Rái, who named the town after his patron Jahángír. Small trade, local manufactures of coarse chintz, hackeries, and *raths*. Mosque, school, *sarái*, police station, post office. The largest proprietor, a relative of Walidád Khán of Málágarh, sided against the British Government during the Mutiny of 1857, and was subsequently imprisoned, but pardoned at a later date. His son still retains the family estates, and possesses great local influence.

Jahángirábád.—Town in Sítápur District, Oudh; situated on the high road to Bahráich, 29 miles east of Sítápur, and 8 miles east of Biswán. A weaving town, containing many Muhammadan Juláhas, or weavers of coarse country cloth. Pop. (1869), 2640. Good bi-weekly market, Government school.

Jaházgarh (or *Georgegarh*).—Fortress in Rohtak District, Punjab, near the town of Jhajhar; built, according to Thornton, by the military adventurer George Thomas, at the close of the last century, and called after his own name, but corrupted by the natives into the existing form. In 1801, the Marhattás attacked and invested the fort, and Thomas with difficulty made his escape to Hánsi, where he met with his final defeat. He then abandoned all his conquests, and retired into British territory as a private person, to die at Berhampur in Lower Bengal.

Jahnavi.—River in Garhwál State, North-Western Provinces, and one of the tributaries of the BHAGIRATHI; rises in lat. 30° 55′ N., long. 79° 14′ E., and, holding first a northerly and then a westerly course, joins the main stream near the temple of Bhairoghati. Total length, 30 miles.

Jáinagar.—Municipal town and police station in the District of the Twenty-four Parganás, Bengal. Lat. 22° 10′ 55″ N., long. 88° 27′ 40″ E.; pop. (1872), 7772; gross municipal revenue (1876-77), £238; rate of taxation, 7⅛d. per head of population; police force, 14 men. Jáinagar is situated near the old bed of the Ganges, which has been dammed across, and forms at this place a continuous line of tanks, by one of which are some Hindu temples decorated with indecent sculpture. Large *bázár*; English school under Hindu management. Communication between Jáinagar and Calcutta is maintained by numerous small water-courses ultimately leading into Tolly's Canal.

Jáinagar.—Town in Darbhangah District, Bengal; situated in lat. 26° 34′ 45″ N., and long. 86° 11′ E., a few miles south of the Nepál

frontier, and a little east of the river Kamlá. Pop. (1872), 2665. Contains the ruins of a mud fort attributed to Alá-ud-dín, Governor of Bengal, and said to have been constructed about 1573, to resist the incursions of the hill tribes. Near the fort is an encampment made by the English during the Nepálese war. The Jáinagar indigo and sugar factory is now closed. The town is placed in easy communication with all parts of the District.

Jáini.—Town in Vizagapatam District, Madras; situated on the Gostháni river, in lat. 18° 3′ N., and long. 83° 18′ E. Houses, 1587, with (1871) 6088 inhabitants. Formerly headquarters of a *táluk*. Indigo factory.

Jáintia.—A tract of country in the Province of Assam; once a State under an independent Rájá, but now divided into the JAINTIA HILLS (which form part of the District of the Khási and Jáintia Hills) and the Jáintia plains (incorporated with Sylhet District). This article refers only to the latter tract, which contains an area variously estimated at 581 and 437½ square miles. It consists of the strip of low-lying country of varying width that extends between the Khási and Jáintia Hills on the north, and the main stream of the Barák or Surmá river on the south. Indra Sinh, the last Rájá of Jáintia, was a petty chief whose family had risen to importance amid the ruins of the Cáchári kingdom at the close of the last century. Like the neighbouring rulers, they had adopted some form of Hinduism as their dominion became organized; and in this case, the worship of the bloodthirsty Káli was selected as the national religion. Several shrines of this goddess in Jáintia are still frequented places of pilgrimage. The abomination of human sacrifice, which was of common occurrence, led to repeated remonstrance from the British Government. In 1835, three British subjects were carried off from Sylhet District to be immolated at a popular shrine of Káli. Rájá Indra Sinh was himself charged with complicity in this outrage, and the Governor-General issued a proclamation declaring his deposition and the annexation of the plain portion of his territory to Sylhet. The Rájá voluntarily resigned the hill tract, and of this we also took possession. He was granted a pension of £600 a year, and resided peaceably in Sylhet until his death in 1861. Between the years 1838 and 1840, the Jáintia plains were roughly surveyed by Lieutenant (now General) Thuillier, who estimated the total area at 581 square miles, of which about one-sixth was then under cultivation. The former native Government is described as a pure despotism. The revenue was received by the Rájá partly in produce and partly in labour, and all tenures were voidable at his will. No class of persons had any recognised rights in the land, but the more substantial cultivators called themselves *mirásdárs*, the Sylhet equivalent for *zamíndár*. Over the cultivators were officials known as *chaudharís*,

who acted as revenue collectors or *tahsíldárs.* After British annexation, a temporary land settlement was concluded with the cultivators for a term of five years, renewed for successive periods of 10, 15, and 20 years, expiring in 1877. In 1853, when Mr. Mills drew up his valuable report upon Sylhet, the total land revenue paid was £4455; the number of estates was 20,677, showing an average assessment of only 3s. 4d. on each estate; nearly half the estates paid less than 2s. each a year, and only 3 paid more than £25. By 1874-75, the current demand of land revenue had risen to £6762, and the number of estates to 21,194. A re-settlement of the 18 *parganás* or fiscal divisions into which this tract is divided was commenced in 1875; but early in the following year, the work was for a time suspended, owing to the attitude of organized hostility assumed by the inhabitants of certain villages. They refused in a body to point out their lands to the *amíns* or native surveyors, under some misapprehension of the mode in which the measurements were to be made. Argument and persuasion by the European settlement officer having been employed in vain, it was found necessary to have recourse to Act xx. of 1848, and punish the ringleaders by the imposition of daily fines. The settlement operations have since been renewed without encountering any active opposition. All further information concerning the Jáintia plains is included in the article on SYLHET DISTRICT.

Jáintia Hills.—For administrative purposes, the Jáintia Hills are regarded as a Subdivision of the Khási and Jáintia Hills District, in the Province of Assam. This tract covers an area of about 2000 square miles; bounded north by the District of Nowgong, east by Cáchár, south by Sylhet, and west by the Khási Hills. The administrative headquarters and the residence of the Assistant Deputy Commissioner are at the station of JOWAI. As compared with the semi-independent States in the Khási Hills, the Subdivision of the Jáintia Hills is treated as British territory, having been voluntarily surrendered by the native Rájá in 1835, as described in the preceding article on JAINTIA. When we first assumed charge, no change was made in the indigenous revenue system, which consisted simply in the payment of a he-goat once a year by each village. The Rájá had derived the greater part of his income from his possessions in the plains. In 1860, however, a house tax was imposed, the highest limit of which was 2s. per house. This measure of direct taxation was very obnoxious to the hillmen. They formed irregular gatherings, at which they refused to pay except through their own hereditary Rájá, who was then living under surveillance in Sylhet District. An outbreak took place in the beginning of the year, which was promptly suppressed, and a general disarmament was ordered. Towards the close of 1860, fresh taxation was introduced, in the form of judicial stamps and imposts upon fisheries and timber-cutting. At the same time, the elaborate

schedules of the new income tax were thrust into the hands of persons, few of whom could read the language in which they were framed. All these fiscal novelties were introduced without the safeguard that would have resulted from the presence of European officers. Towards the close of 1861, rumours of disturbance were in the air. In January 1862, the hillmen rose in open rebellion, the immediate cause being the interference of a native official with a religious ceremony. The police station at Jowái was burned to the ground, the garrison of Sepoys was closely besieged, and all show of British authority was swept away throughout the hills. The hillmen fought bravely for independence, their weapons being only bows and arrows and the dreaded *pánjí* or bamboo spike, stuck thickly in the paths leading to their fastnesses. At first they were successful in cutting off several detachments of Sepoys and police. Afterwards it was found necessary to move into the hills a regular army, including an elephant battery and two regiments of Síkhs—operations both tedious and harassing. The last of the ringleaders was captured, and order was finally restored in March 1863.

The Jáintia Hills are divided into 25 fiscal divisions, of which 3 are inhabited by Kukí or Lusháí immigrants, and 1 by Mikirs. The remainder of the inhabitants are Syntengs, a race akin to the Khásias, but reported to have distinct ethnical characteristics and a language of their own. Colonel Yule, however, who travelled through the country, questions whether any real linguistic or ethnical difference exists between the Khásias and the Jáintias.

The chief crop is rice, grown on the nomadic system of agriculture known as *júm*. In the neighbourhood of the plains, ploughs and oxen are used; but amid the hills, the only agricultural implement is the *dáo* or hill knife. The most valuable natural product is limestone, which is quarried on the river banks at seven different places, and despatched by water into Bengal from the Sylhet markets. Coal has been found of excellent quality at five spots, most of which are inaccessible to water traffic. The most extensive of the coal beds is at Lá-ká-dong, within 6 miles of a navigable tributary of the Surmá. This was worked from 1850 to 1856, and about 5000 tons of coal were extracted for exportation. The Syntengs, like the Khásias, are keen traders, and retain in their own hands the valuable commerce of their native hills. They frequent the markets held on convenient days in the chain of villages at the foot of the hills on the Sylhet side. In 1876-77, the total value of the exports from the Subdivision was estimated at £19,000, including 16,000 *maunds* of raw cotton and 5490 *maunds* of lac. The total imports were valued at £34,560, chiefly £8000 of cotton and woollen cloth, £2500 of silk cloth, 15,000 *maunds* of rice, 6230 loads of dried fish, 5290 *maunds* of salt, and 609 *maunds* of tobacco. In the same

year, the total revenue of the Jáintia Hills Subdivision amounted to £1271, of which £1065 was derived from the house tax. This tax is annually assessed by the head-man of each village, whose title is either *dolloi* or *sardár*, upon every house at the rate of 2s. or 4s., and confirmed by the Assistant Deputy Commissioner. In 1869, the first year in which the Subdivision was opened, the total cost of separate administration was £1091. All the other statistics are included in those given in the article on the KHASI HILLS.

Jáintiapur (or *Jáintia Bázár*).—Village and *thána* or police station in the north-east of Sylhet District, Assam; situated in lat. 25° 8′ 7″ N., and long. 92° 10′ 2″ E., on the Chengar Khál river, at the foot of the Jáintia Hills. The weekly market is frequented by Khási and Synteng traders, who bring down the produce of their hills to exchange for cotton goods, salt, and rice.

Jáipur (*Jeypore*).—A Native State in Rájputána, under the political superintendence of the Rájputána Agency and the Government of India. It is bounded on the north by Bíkaner (Bickaneer), Lohárú Jhajjar, and Patiála; on the east by Ulwar (Alwar), Bhartpur (Bhurtpore), and Karauli; on the south by Gwalior, Bundí (Boondee), Tonk, and Udáipur (Oodeypore); on the west by Kishangarh, Jodhpur, and Bíkaner. It lies between lat. 25° 41′ and 28° 27′ N., and between long. 74° 55′ and 77° 15′ E. Area, 14,465 square miles.

Physical Aspects.—The general character of the country is tolerably level and open, although its surface is crossed and diversified by groups and ranges of hills and by isolated peaks. The centre of the State is an elevated tableland of triangular form, from 1400 to 1600 feet above sea level, and with a gradual slope to the south-east towards the Banás river. The eastern limit of this plateau is formed by ranges running north and south along the Ulwur (Alwar) border, and at places cut up by numerous deep ravines; towards the north and west, it is bounded by a broken chain of hills, an offshoot from the Aravalli Mountains, which constitutes the apex of the triangle. The hills here rise to a considerable height, with a bold outline; and on the north-west form a natural boundary between the sandy, desert tract of Shaikhawati (or the country of the Shaikhawat clan in the extreme north of the State) and Bíkaner; to the south-east lies the more fertile soil of Jáipur proper. On the east, beyond the range of hills near the capital, there is a rapid fall of some 300 or 400 feet in the first 2 or 3 miles, after which a gradual slope follows the valley of the Bánganga river to the Bhartpur border, and the country becomes more open as it spreads out towards the alluvial flats of the Jumna (Jamuná). In the extreme south of the State, the hills reappear; and in the neighbourhood of Rájmahál, where the Banás river has forced itself through the range, the scenery is remarkably beautiful. Westward from Jáipur city, the

country rises gradually towards the Kishangarh border, consisting in great measure of broad, open, treeless plains, dotted with hills.

The general drainage of Jáipur from the central tableland is to the east and south-east, though a few streams follow the slope to the north-west. The BANAS receives most of the rainfall by means of several tributaries, of which only one or two are perennial. The BANGANGA reaches the Jumna (Jamuná) direct, flowing eastward through Jáipur territory. In the hot season, its surface bed is often dry. Of their tributaries in Jáipur, the Amán-i-shah, which supplies Jáipur city with water, has a slight flow throughout the year; but other tributaries, such as the Bándi, the Moril, the Dúnd, and the Khári, although their beds are frequently of great width, are flooded only in the rains, and dry during the hot months. The Sabi is the chief river that flows in a northerly direction. It rises about 24 miles due north of Jáipur city, and, after skirting Ulwur, passes out into the Nábha State. It is subject to heavy floods. The Káotli flows north-north-west for a distance of about 60 miles through Shaikhawati, and loses itself in the sand just as it enters Bíkaner territory.

South of the dividing range between Shaikhawati and Jáipur, water is found beneath the surface at a depth varying from a few feet in low-lying land to 30 or 40 feet; but in Shaikhawati, north of that range, water lies at a great depth, averaging from 80 to 100 feet. It is brackish in many parts where the soil is much impregnated with salt; but sweet water may be found throughout the east and south of the State.

The soil of Jáipur in the immediate neighbourhood of the city, and to the west and north also, is generally sandy. In some places there are tracts of barren sand, frequently underlaid by clay and stiff soil mixed with *kankar.*

There are no forests of any extent in Jáipur; but the hills near the city and in the south of the State are more or less covered with the *dhao* (Anogeissus latifolius) and other jungle trees, of little or no value except for fuel. The *bábul* (Acacia arabica) and the *ním* (Azadirachta indica) may be considered as the principal trees of the country.

No regular geological survey has yet been undertaken of the hill ranges in Jáipur; but they are said to consist in the north chiefly of granite, and in the south and east of sandstones, mixed sometimes with white or black marble, and occasionally with mica. They are believed to be primitive rocks belonging to the transitionary series, as they do not contain any fossil remains. The hills for the most part rise abruptly from the plain; many of them are peaked, but others are flat at the top, with edges steeply scarped for some way down the hill-side, thus forming natural fortifications. In the north of the State, where the Khetri Hills meet the Ulwar (Alwar) range, a great geological

disturbance has taken place, the granite of the Aravallis bursting through and upheaving the sandstones of the Ulwar chain, thus exposing alum shales and rich veins of copper ore, cobalt, and nickel. Copper mines are worked to a small extent in the neighbourhood of Khetri; but owing to the want of proper appliances for keeping down the water, the richest veins, which are lowest, cannot be reached. Cobalt is found in thin layers between the veins of copper ore. It is much used at Jáipur city for enamelling, and is also exported for that purpose to Delhi and Haidarábád (Hyderábád) in the Deccan. In addition to these minerals, salt is largely manufactured and exported from the SAMBHAR LAKE, situated in lat. 26° 58′ N., and long. 75° 5′ E., on the borders of Jodhpur. The average yearly out-turn of salt is 40,000 tons. Good building-stone, chiefly sandstone and marble, is plentiful. At Bankri, 36 miles east of Jáipur city, and near the Deosár railway station, huge slabs (some of them 30 feet long) of a foliated mica schist are quarried, and are valuable for roofing. Abundance of excellent limestone is procured near the Kánota railway station, and *kankar* (calcareous conglomerate) is found almost everywhere, but generally in flat beds instead of in nodules. Carbuncles are procured in large quantities in the south of the State, near Rájmahál; and it is reported that turquoises were formerly found in great numbers in the same neighbourhood, near Todah.

Agriculture.—In Shaikhawati, there is generally but one crop in the year—raised during the rainy season, and ripening in October–November. This consists chiefly of *bájra* (Holcus spicatus), *múg*, and *moth* (Phaseolus aconitifolius). In the north of Jáipur proper, the crop of the rainy season is the same as in Shaikhawati, but a little wheat and barley are grown in the cold season. Towards the south and east, as the soil becomes richer and firmer, *joár* (Holcus sorghum) and Indian corn, with cotton and *tíl* (Sesamum), are grown in the rains; while in the cold season, wheat, barley, gram, sugar-cane, opium, tobacco, *dál*, and linseed are extensively raised. In the eastern districts, rice of a coarse quality is cultivated to a limited extent. Few traces of former irrigation works exist; but since 1868, the State has spent £5000 annually in improving the irrigation capabilities of the country.

Population.—No Census has yet been taken in Jáipur State, and the population, therefore, can only be very roughly calculated. It has been estimated that the population of Shaikhawati, which has an area of about 5000 square miles, and contains towns comparatively far apart, averages about 50 persons to the square mile, or 250,000 in all. If the density in Jáipur proper (area, 9465 square miles) be taken at 150 persons per square mile, the number of inhabitants would amount to about 1½ million, which gives a total of about 1¾ million for the whole territory. The proportion of the various classes

has been estimated as follows:—Rájputs, one-eighth; other Hindus, five-eighths; Muhammadans, three-sixteenths; Jains, one-sixteenth.

Commerce, etc.—The most noticeable feature in the commerce of the State is the large banking and exchange business carried on at the capital and in the large towns. The chief manufactures of Jáipur are—marble sculpture; enamel work on gold, for which the artisans are justly famous; woollen cloth, and other fabrics. An extensive dyeing trade is carried on at Sanganír, near the capital.

Education has made greater progress in Jáipur than in any other of the Rájputána States. The college at Jáipur city had a daily attendance, in 1876, of 800 students, who receive a good education in English and the vernacular languages, and are prepared for the matriculation and First Arts Examination of the Calcutta University. There is also a school for sons of Thákurs and high officials, a Sanskrit college, and an industrial school. In the country districts, there are 33 elementary schools, wholly supported and periodically inspected by the State; and 379 indigenous schools, with an aggregate attendance of nearly 8000 pupils. Instruction is given both in Hindí and Urdu.

There is a mint at the capital which turns out gold mohurs, rupees, and copper coins. The Jáipur coinage is distinguished by the *jhar* or sprig borne on the obverse. The gold mohur weighs 167·8 grains, the metal being absolutely pure. The rupee, which is alloyed with $4\frac{1}{2}$ grains troy of copper, weighs 175 grains.

The Rájputána State Railway, on the metre gauge, runs from Agra to Jáipur city, and thence to Ajmere and Nasírábád (Nusseerabad). It is being constructed to join the broad gauge line from Bombay at Ahmedábád in Guzerat. A line from Delhi, also on the metre gauge, joins this railway at Bandikui junction in Jáipur territory. A short branch, $5\frac{1}{2}$ miles in length, has also been made connecting the Sambhar Salt Lake with this system.

After the capital, the principal towns are:—Bassau in Shaikhawati, about 120 miles north-west of Jáipur; strong fort and post office. Bagra, on the Agra and Ajmere road. Chatsu, 24 miles south-east of Jáipur, where 8 fairs are held annually; dispensary maintained by the Mahárájá. Chomú, containing the residence of the Thákur of that name, the first noble of the State. Dosa, a station on the Rájputána Railway and the Agra and Ajmere trunk road. At the close of the Mutiny, the famous rebel Tántia Topí was captured in the neighbourhood of Dosa, and a battle was fought under its walls. There are 6 fairs held here annually. Dispensary and post office. Digi, 42 miles south of Jáipur, has an important fair, much attended by pilgrims. Duni, a populous town, 70 miles south of Jáipur, with a fort, and surrounded by a mud wall. Famous for a resolute and successful

defence against Daulat Ráo Sindhia in 1809. Fatehpur, a fortified town in Shaikhawati, with an imperial post office. Hindaun, a large commercial town on the Agra and Mhow road, famous for an annual fair, much resorted to by pilgrims; post office and dispensary. Khetri, the capital of a feudatory chiefship of the same name, is situated in Shaikhawati, 75 miles north from Jáipur. It has a strong citadel. In the neighbourhood are valuable copper mines. There is a dispensary, also schools, both English and vernacular, and a post office. Kotpútli, about 74 miles north-east of Jáipur, was granted by Lord Lake in 1803 to the Rájá of Khetri, who is subordinate to the Mahárájá of Jáipur, on account of military service. The fort and fortifications, before they were taken by Lord Lake from the Marhattás, were exceedingly strong. Lakshmangarh is a large fortified town, occupied principally by the banking class; imperial post office. Náráyana, an ancient town, with several temples of interest, and famous as the headquarters of the Dádú Pánthis, a small religious sect, who profess to worship one God unrepresented by an image and without a temple, their saints, being celibates, maintaining a successor by adoption. From the Dádú Pánthis the foot-soldiers of the State called 'Nágas' are obtained, numbering between 4000 and 5000 men, to whose fidelity is attributed the stedfastness of the general army of Jáipur during the Mutiny of 1857-58. Other towns are—Naolgarh, Uniára, and Rámgarh in Shaikhawati; Samot and Sambhar on the Salt Lake; Sanganír, a flourishing town, 7 miles south-west of the capital and 3 miles from the Sanganír station on the Rájputána Railway, has some very interesting ancient temples, and the place is now celebrated for dyeing and printing cotton stuffs, in which a large business is done. Sikar and Singhana are also considerable towns.

History.—The Mahárájá of Jáipur is the chief of the Kachhwaha tribe of Rájputs, and claims descent from Ráma, King of Ajodhya in Oudh. Between the mythical Ráma and Dhola Ráo, who founded the Jáipur State in A.D. 967, thirty-four generations are said to have intervened. At the time of the foundation of Jáipur, Rájputána was divided among petty Rájput and Mína chiefs, owing allegiance to the great Tuár dynasty of Rájputs, who then reigned at Delhi. Dhola Ráo and his Kachhwahas are said to have absorbed or driven out the petty chiefs, and to have founded a substantial dominion, known as Dhúndar. Half a century later, the Kachhwaha chief Hamají wrested Amber from the Mínas, and this place remained the capital until 1728, when the second Jái Sinh abandoned it for Jáipur. The ninth chief in succession from Hamají was Udikaran, the grandfather of Shaikh, who conquered for himself the District now held by the Shaikhawati sept of the Kachhwaha clan. On the irruption of the Mughals into Hindustán, Jáipur State very soon succumbed to their supremacy, and

the Jáipur house furnished some of their most distinguished military leaders. The Emperor Akbar, in the sixth year of his reign, when on a pilgrimage to Ajmere, honourably received at Sanganír, Bihári Lál, then chief of Jáipur, and married his daughter. Bihári Lál, with three of his sons, entered the Emperor's service. One of these sons, Bhagwán Dás, attained distinction as a governor and commander; and his adopted son, Mán Sinh, was one of the most conspicuous of the imperial generals. He fought in Orissa, Bengal, and Assam; and at a critical period, under great difficulties, he maintained his authority as Governor of Kábul. He was rewarded with the governments of Bengal, Behar, and the Deccan. The next chief of note is Jái Sinh, the third in succession from Mán Sinh, who was commonly known by his imperial title of Mírzá Rájá. His name appears in all the wars of Aurangzeb in the Deccan. He it was who contrived to capture Sivají, the celebrated founder of the Marhattá power. Eventually, it is said, Aurangzeb, becoming jealous of Jái Sinh, caused his death by poison. Omitting three chiefs, we come to Jái Sinh II., commonly known as Siwái Jái Sinh, a title given by the Emperor, which his descendants adopt to this day. The word Siwái means $1\frac{1}{4}$, and is supposed to measure the superiority of the bearer to all his contemporaries, whom the unit signifies. Jái Sinh was chiefly remarkable for his scientific knowledge and skill. He constructed observatories at Jáipur, Delhi, Benares, Muttra, and Ujjain, by which he was able to correct the astronomical tables of De La Hire, and to leave, as a monument of his skill, lists of stars collated by himself, known as the 'Tij Muhammad Sháhi,' or Tables of Muhammad Shah, the then Emperor of Delhi, in whose favour Jái Sinh stood high. He laid out and built the present Jáipur (Jeypore) in A.D. 1728. At a later period, the Rájás of Jáipur united with Udáipur (Oodeypore) and Jodhpur to resist the Muhammadan power. To regain the honour of intermarriage with the Udáipur family, which his family had lost by giving a princess to the Mughal emperor, the Rájá of Jáipur now consented that the issue of an Udáipur princess should succeed in preference to an elder son by other wives. This attempt to set aside the right of primogeniture brought great disasters both on Jáipur and Jodhpur. About this time the Játs of Bhartpur (Bhurtpore), after several successful encounters with the Jáipur chief, annexed a portion of this State. The defection of the chief of Ulwar (Alwar), about the year 1790, further reduced the limits of the territory. By the end of the century, Jáipur had fallen into great confusion, being distracted by internal broils, and impoverished by the exactions of the Marhattás, who had also entered the State. In 1803, political relations were first entered into with the British Government, the object being to form a league against the Marhattás; but the alliance was dissolved by Lord Cornwallis. Meanwhile, the disputes between the Rájás of

Jáipur and Jodhpur for the hand of the daughter of the Udáipur chief had brought both States to the verge of ruin, and Amír Khán, with his Pindárí marauders, was exhausting the country. In 1817, negotiations began again; and in 1818, a treaty was at last made, by which the protection of the British Government was extended to Jáipur, and an annual tribute fixed. Two successive minorities which followed the death of Jagat Sinh in 1818, gave opportunities for strife over the succession, and for much misgovernment. In 1835, on the succession of the present Mahárájá, then two years old, took place a serious disturbance in the city, after which the British Government took measures to insist upon order, to reform the administration as well as to support its effective action; and the State has gradually become well governed and prosperous. When the Mutiny broke out in 1857, the Mahárájá at once placed the whole of his available military power at the disposal of the Political Agent, and in every way that lay in his power assisted the British Government. For these services, he was rewarded with the grant of the *parganá* of Kot Kásim. He also received the privilege of adoption. For his praiseworthy behaviour and liberality during the famine in Rájputána in 1868, he received an addition of 2 guns to his salute for life; and in 1877, this was again raised, making his present personal salute 21 guns. For his general services and loyalty, he was created a Knight Grand Commander of the Order of the Star of India. Since 1869 he has held a seat in the Legislative Council of India, and he is also a Counsellor of the Empress. The right of succession, in the event of failure of direct heirs, is supposed to be vested in the Rájáwat family or the descendants of the stock of Prithi Rájá, one of the former rulers. He had twelve sons, to whom he gave estates known as the twelve Kotrís. The number of Kotrís, however, is now more than twelve, others having been obtained by descendants of early rulers, while some of the Kotrís created by Prithi Rájá are now extinct.

About 70 *lákhs* of rupees (£700,000) from the revenues of the State are alienated in *jágírs* and religious grants, but the available receipts are about £475,000. The military force of the State consists of 72 military pieces (mostly of small calibre), 824 artillerymen, 4450 cavalry (including 3380 feudal and *jágírdár* horse), and 15,858 infantry (5205 of which belong to special bodies). The number of forts is 38, with an aggregate of 220 guns of all calibres. Both the troops and the ordnance are of indifferent military value, but sufficient for maintaining the tranquillity of the country.

Climate.—The climate is dry and healthy, and malarious fevers are of rare occurrence. In the cold season, the temperature is very agreeable; but in Shaikhawati it is often unpleasantly cold, and hoar-frost frequently remains in the shade till long after sunrise. During

the hot season, the winds from the west blow with great force in Shaikhawati and the northern portions of Jáipur; but the sand soon parts with its heat, so that the nights are generally pleasant, and the mornings cool. Towards the south and east, the hot winds are less strong; but owing to the soil not being sandy, the nights and mornings are not so cool. The average annual temperature of Jáipur, taken from a record of five years, is 81·27° F.; the maximum temperature of 1875 was 106°, and the minimum 38°. May and June are generally the hottest months; January and February the coldest. There is usually a fair rainfall throughout the State, except in Shaikhawati; and Jáipur proper is seldom afflicted with the periodical famines which visit the neighbouring territories, for, being on the verge of the south-east and south-west monsoons, it receives rain from both. The rainfall at the capital during the eight years from 1868 to 1875 amounted to a yearly average of rather more than 25½ inches; the maximum being 42·5 inches in 1870, the minimum 12·6 inches in 1868.

Jáipur (*Jeypore*).—Capital of the State of the same name; situated in lat. 26° 55′ N., and long. 75° 52′ E., on the Rájputána State Railway and the Agra and Ajmere trunk road; 149 miles north-east of Ajmere. It is the largest town and the chief commercial centre of Rájputána, and in many respects the finest of modern Hindu cities. The city, which takes its name (Jáinagar or Jáipur) from the famous Mahárájá Siwái Jái Sinh II., by whom it was founded in 1728 A.D., stands in a small plain, conjectured to be the bed of a dried-up lake. It is surrounded on all sides, except the south, by rugged hills, the summits of which are now, at all important points, crowned with forts. At the end of the ridge, overhanging the city on the north-west, is the chief defensive work, the Nahárgarh, or 'Tiger Fort,' the rock face of which is so scarped as to be inaccessible on the south or city side; while on the north, the ridge slopes towards Amber. A masonry crenelated wall, averaging in height 20 feet, and in thickness 9 feet, encloses the whole city. In this are 7 gateways, furnished with screen walls, all built of the same pattern, with 2 kiosks above and machicoulis over the entrance. At intervals are bastions and towers pierced for cannon, while the parapet is loopholed for musketry. The city is remarkable for the regularity and width of its streets, and the architectural beauty of the mosques, temples, and private residences which adorn them. From east to west, Jáipur is a little over 2 miles in length, and in breadth about 1¼ mile. It is laid out in rectangular blocks, and is divided by cross streets into six equal portions, which are in turn intersected at regular intervals by narrower paths, the subdivision proceeding until at last the thoroughfares become mere lanes. The main streets are paved, and the city is lighted by gas, manufactured outside the walls. The houses of the

nobility and the citizens are in the suburbs, while the Mahárájá's palace with its pleasure-grounds occupies the centre of the town, covering about one-seventh of the total area.

In Jáipur, there are as many as 7 banking firms, whose aggregate business amounts to about 2½ crores of rupees (say £2,500,000), and who possess a capital of upwards of £6,000,000 sterling. In addition to these, there are several minor houses whose collective business may be estimated at half a crore (say £500,000) a year. Exchange and banking constitute the greater portion of the trade of the place. The city is well provided with hospitals, dispensaries, almshouses, and schools. The Jáipur College has been noticed in the account of the State. The mint and the jail are also situated in the city. The imperial post office, the telegraph office, and the Residency for the political officer accredited to the Jáipur court, are all located outside the city walls, where there are also a staging bungalow and a hotel. Good drinking water is brought into the city from the Aman-i-Sháh river, about 4 miles distant. It is raised by steam pumps about 104 feet into service reservoirs, which command the city, and through which it is delivered in iron pipes under 50 feet pressure.

A regular Census of the city of Jáipur was taken in 1870, by which its population was ascertained to number 137,847 persons. One of the most interesting antiquities of the State is the Hindu observatory at the capital. This was erected early in the last century by Mahárájá Siwái Jái Sinh II., the celebrated astronomer and mathematician, and is the largest of the five which he constructed. It contains dials, azimuth circles, altitude pillars, etc. of huge size, and for the most part built of masonry, covered with lime, upon which the gradations were most carefully marked. The instruments have suffered much from age and exposure, and have not been used within the present generation.

On the summit of a range of hills, about a mile and a half east of Jáipur town, is a sacred shrine called the Gulta, with a temple dedicated to Surya or the Sun-god. Below the platform, a spring issues, which pours over the rock by a fall of about 70 feet into the valley below. The water of this spring is considered peculiarly sacred by the Brahmáns.

Jáipur.—Town in Lakhimpur District, Assam; situated in lat. 27° 15′ N., and long. 95° 26′ E., on the left bank of the Dihing river, on the frontier of the Nágá Hills. In the neighbourhood are extensive coal-fields, with an estimated marketable out-turn of 10 million tons. The river is navigable up to this point by steamers during the rains, and 50 miles higher by boats. The exports are tea, caoutchouc, beeswax, and ivory, valued at £1600; the imports are rice, salt, tobacco, oil, iron, and cloth, valued at £2000. A detachment of 40 men of the 44th Assam Light Infantry is permanently stationed here.

Jáipur (*Jáyapuram*).—*Zamíndárí* or tributary estate in Vizagapatam District, Madras, lying between 17° 30′ and 20° N. lat., and 81° 20′ and 84° 4′ E. long. Bounded on the north by Kaláhándi in the Central Provinces; on the east by the plain of Vizagapatam; on the south by Rekapalli and Golconda; and on the west by Bastar. Area, 11,526 square miles; houses, 93,891; pop. (1872), 452,454; annual tribute to Government, £1600.

Jáipur may be divided into two parts. The larger portion, directly under the Rájá and within the jurisdiction of the Assistant Agent, lies on the so-called Jáipur plateau; the other portion consists of the *táluks* of Gúnapur and Rájágudda, and is administered by the Senior Assistant Collector, whose headquarters are at Parvátípur. 'To the east and north-east of Gúnapur lies the Saura Hill country, consisting of two tablelands, about 200 square miles in extent. North of Gúnapur, the estate runs up in a wedge-like form to a distance of 70 miles, between Káláhandi of the Central Provinces on the west and Chinna Kimidi on the east, reaching very nearly to 20° N. lat. In the centre of this tract stands out the very remarkable group of hills named Nímgiris, which rise to a height of 5000 feet, and are separated by valleys (of not more than 1200 feet above the sea) from the ranges of Gháts on the west and east. The drainage from the Nímgiris and the neighbouring country flows directly in a south-easterly direction to the sea, forming at Kalingapatam the river Vamsádhára, so called from the bamboos (*vamsa*) growing on its banks, and the Nágávali at Chicacole. Exclusive of large estates held by semi-independent Kandhs, the upper portion of Jáipur is occupied by three powerful chiefs, one at Godávari, one at Bissemkatak, and the third at Singapur, feudatories of the State' (Carmichael). The population here (chiefly Kandhs and Sauras) numbers 137,966, the largest villages being Gúnapur, Rájágudda, Singapur, Bissemkatak. The eastern portion of the country consists of the *táluks* of Korapat, Kotipád, Naorangpur, and Malakangiri. It is a tract 160 miles long by 80 broad, and contains, according to Mr. Turner's Census in 1872, 61,238 houses and 314,488 inhabitants. The principal towns are JAIPUR (1083 houses and 9259 inhabitants), Kolipád (621 houses, 3189 inhabitants), Naorangpur (554 houses, 2843 inhabitants).

The religion of the country is Hindu. Ethnically, the inhabitants include Aryans, Kolarians, and Dravidians. The so-called Aryans are comparatively recent colonists, and comprise the ruling and fighting men and the priests. The cultivators, called *parjas* (literally 'subjects'), number more than two-thirds of the entire population; Aryans represent one-seventeenth; Pariahs, one-sixth. The mountaineers retain far greater independence than the *ráyats* of the Jáipur and Malakangiri plateaux. In the uplands, patriarchal authority is still

unassailable; whereas in the lower-lying tracts it is only preserved in parts where a struggle is still being carried on between cultivation and jungle.

Every variety of land tenure is found throughout Jáipur. The most interesting is that in which the ownership of the soil still rests with the people, in contradistinction to the landlord tenure generally held by the *zamíndárs*. It is only of late years that the annual gift in token of homage has been commuted to a payment in kind or money. In such cases, the landowner is nearly always the head of a village; and though it may be doubted whether he has any right to dispose of the soil for his own private interest, he has for ages been in the habit of selling or mortgaging parts of the landed property of the village without reference to the Rájá or to his managers. From this patriarchal authority, we are able to trace a regular gradation in the tenures, as they pass by degrees to the paramount authority of the Rájá.

The religious ceremonies and social customs of the various tribes differ but little from one another. The process of fusion of the habits of later immigrants with aboriginal customs is, however, very apparent. In those parts of the country which are in a prosperous condition, ideas and manners imported from the coast Districts are gradually overcoming and absorbing all aboriginal conceptions; but, on the other hand, in jungle-covered and backward lands, the colonists are always corrupted by the superstitions of the indigenous races. Thus in Kotipád and Singapur, highly cultivated and flourishing tracts, the new-comers have taught the earlier races to burn their dead instead of burying them; and the practice of early marriages is spreading among the richer *ráyats*—a custom altogether foreign to aboriginal notions. As an instance of the way in which religious rites are borrowed from the aborigines, the Meriah sacrifice may be quoted. This is believed to be strictly a Kandh rite; yet it was adopted by the colonists, for we have evidence that it was practised by the former Rájás of this and the neighbouring hill States. A more familiar example is the increased belief in witchcraft, characteristic of forests and lonely tracts.

The *zamíndárí* and the family of the Rájá are both of old standing, and the origin of both is involved in a mist of tradition. The country was formerly held by a Sila Vansá ruler, who reigned at Nandápur, when the ancestors of the present house were retainers of the Gajapati rulers of Cuttack (Katak). 'About the 15th century, Vinayak Deo, the founder, a Rájput of the Lunar line (Chandravansa), is said to have married a daughter of the Gajapati ruler, who bestowed this principality upon him, on the extinction of the old line of the Nandápur chiefs. To secure his pretensions with the wild races of the highlands, the new feudatory prudently took for his second wife the last surviving princess of the ancient stock of Síla Vansá rulers. Whatever

their origin, it is certain that an ancestor of the Jáipur family was in possession, not only of the country comprised in the limits of the Jáipur *zamíndárí* as it now stands, but of all the present hill *zamíndárís* which lie at the base of the Gháts, when the founder of the Vizianágaram Ráj came to Chicacole in the train of the Golconda Faujdár, Sher Muhammad Khán, about the year 1652. The tribute payable by Jáipur to the Faujdár was £2400.'

Previous to the acquisition of the Northern Circars by the Company, Jáipur was subordinated to Vizianágaram; and this relation was upheld by the British till 1794, when the Rájá's loyalty after the battle of Padmanábhan was rewarded by a perpetual *sanad.* In 1803, his *peshkash* or tribute was fixed at £1600. In addition to this, Jáipur pays £300 annually to Bastar for the Kolipád country. In 1848, the affairs of the estate fell into great confusion, owing to the insubordination of some members of the Rájá's family. The disturbance went so far that the lower *táluks* were attached by Government. The troubles, however, lasted two years, and broke out again in 1855. In 1860, for the first time the British interfered in the administration of justice in the *zamíndárí;* and since the accession of the present Rájá, the Assistant Agent has resided within Jáipur, and is aided by 6 sub-magistrates and a strong police force. There were two unimportant outbreaks of Sauras in 1865-66.—(See Carmichael's *Manual of Vizagapatam* and H. G. Turner's *Reports.*)

Jáipur (*Jáyapuram*, 'The city of victory').—Town in Jáipur *zamíndárí*, Vizagapatam District, Madras. Lat. 18° 55′ N., and long. 82° 38′ E.; containing 1803 houses and (1872) 9259 inhabitants. Situated (at an elevation of 2000 feet above sea level) 7 miles north of the northern wall of the plateau of the Vizagapatam Hills. It has neither trade nor manufacture, and is only of importance as the residence of the Rájá. The Assistant Agent and Superintendent, formerly resident here, have moved to Korapat on account of the unhealthiness of the town. There is still a sub-magistrate station at Jáipur. The town consists of a long straggling street lined with mud huts, the palace of the Rájá, and a large number (48) of pagodas, being the only other buildings of note.

Jáis. (*Jáis Rokha*, or *Rokha Jáis*).—*Parganá* in Salon *tahsíl*, Rái Bareli District, Oudh. Bounded on the north by Mohánganj *parganá;* on the east by Amethi *parganá;* on the south by Parshádepur and Ateha *parganás*, the Sái river forming the boundary; and on the west by Rái Bareli *parganá*. A level and generally very fertile tract, but with extensive saline plains (*usar*), in the east and north, with low-lying lands, subject to annual inundation. Around Jáis town the soil is of exceptional richness, the poppy plant being extensively cultivated. Area, 154½ square miles, or 98,862 acres, of which 84,443 acres are

cultivated and 13,531 available for cultivation. About three-fourths of the cultivated area is irrigated. Government land revenue, £10,072, at an average rate of 3s. 4½d. per arable acre. Of the 110 villages comprising the *parganá*, 54 are held under *tálukdárí* and 54 under *zamíndárí* tenure. Kanhpurias own 76, and Musalmáns 19 villages. Pop. (1869), Hindus, 70,582; Muhammadans, 13,861; total, 84,443, viz. 42,239 males and 42,204 females; average density, 548 per square mile. Five lines of road intersect the *parganá*, and a ferry is maintained across the Sái at Parshádepur. Exports — grain; imports—principally cotton and salt from Cawnpore.

Jáis.—Principal town in above *parganá*, Rái Bareli District, Oudh; situated on the Sultánpur and Rái Bareli road, 4 miles west of Nasirábád, and 16 south-west of Salon. Lat. 26° 15′ 55″ N., long. 81° 35′ 15″ E. Formerly called Udáyanagar; and captured by the Muhammadans during the invasion of Sayyid Sálár Masáúd, who gave the place its present name. Picturesquely situated on rising ground, among groves of mango trees. Pop. (1869), 5258 males and 6059 females—total, 11,317, residing in 508 brick and 2471 mud houses. Almost a purely Muhammadan town, without a single Hindu shrine. The Jains, however, have a temple dedicated to Parasnáth. Two large mosques, and a handsome *imámbára*, dating from 200 years ago. *Garhá* cloth and muslin, manufactured by Muhammadan weavers, form the sole export. Saltpetre is also manufactured, but not to any considerable extent. Three considerable bi-weekly markets; Government Anglo-vernacular school.

Jáisalmír (*Jeysulmere*). — Native State in Rájputána, under the political superintendence of the Rájputána Agency and the Government of India. It lies between lat. 26° 5′ and 28° 23′ N., and between long. 62° 29′ and 77° 15′ E. Its greatest length from east to west is 172 miles, and the greatest breadth from north to south, 136 miles. It is in shape an irregular oval, the longest axis being 215 miles, lying north-east and south-west. The area of the State is 16,447 square miles. It is bounded on the north by Baháwalpur, on the east by Bíkaner (Bickaneer) and Jodhpur, on the south by Jodhpur and Sind, and on the west by Khairpur State and Sind.

Physical Aspects.—Jáisalmír (Jeysulmere) is almost entirely a sandy waste, forming part of what is called 'the Great Indian Desert.' In the neighbourhood of Jáisalmír city, within a circuit of about 40 miles, the soil is very stony, and sandstone rocks, flat-topped and entirely destitute of vegetation, occur; but with this exception, the general aspect of the country is that of an interminable sea of sandhills, of all shapes and sizes, some rising to a height of 150 feet. Those in the western portion of the State are covered with *phog* (Calligonum) bushes; in the eastern, with tufts of long grass. Nothing can well bear a more

desolate appearance. The villages are far apart, and consist, as a rule, of a few circular huts or wigwams collected round a well of brackish water. Towards Tarnot and the west of Jáisalmír, there seems to be an attempt at cultivation. In the east, near the large villages of Noh, Bikampur, and Birsilpur, fields have been formed in the valleys between the sandhills, where, when the season is favourable, the inhabitants grow *joár* and *bájra*. Water is scarce, and generally brackish, and the average depth of the wells is said to be about 250 feet. A well recently measured by an officer of the Great Trigonometrical Survey, at Choriá, 32 miles south-east of the capital, was 490 feet deep. Rain-water is used for drinking purposes as much as possible; but owing to a scanty rainfall, the supply stored up in the village ponds often fails. There are no perennial streams in Jáisalmír, and only one small river, called the Kakni. This rises near the villages of Kotri, Gohira, and Latabáná, and after flowing a distance of 28 miles, spreads over a large surface of flat ground, forming a lake or *jhíl* called the Bhuj Jhíl. Occasionally, when there is an exceptionally large rainfall, this river deviates from its usual course near the village of Káldhána, and, passing Lodhoroa, empties itself on what is locally known as a Rann, or flat salt marsh, 15 or 16 miles beyond Bhuj, and soon dries up. The Láthi-ka-nadi, which entered Jáisalmír from Jodhpur State, has contained no water since 1825.

The climate of Jáisalmír is essentially dry and healthy. Epidemics are of rare occurrence. Fever, spleen, skin disorders, guinea-worm, and small-pox, are the most common diseases. The temperature is highest in May and June, when hot winds prevail with much violence. As soon as rain falls, the weather becomes cool and pleasant. The coldest period is from the middle of December to the middle of February. The climate is liable to extremes of cold and heat, especially in the northern part. No observations on the rainfall or temperature have ever been registered, but the former is very slight indeed; in 1875, for instance, there were only two rainy days. The country is, however, under the influence of the south-west monsoon, and usually has a fair rainfall in the months of June, July, and August.

History.—The majority of the inhabitants are Yadu Bhati Rájputs, who claim a very ancient lineage. They take their name from an ancestor named Bhati, who was renowned as a warrior when the tribe were located in the Punjab. Shortly after this, the clan was driven southwards by the King of Ghazní across the Sutlej (Satlej), and found a refuge in the Indian Desert, which was henceforth their home. It is thought probable that, like the Ráhtor Rájputs, they are descended from one of the Indo-Scythic tribes, who penetrated into Hindustán at a very remote period. The Bhatis, subsequent to their entry into the desert tract, engaged in constant struggles with the neighbouring

tribes, whom they gradually overcame, and established themselves successively at Tarnot, Deoráwal, and Jáisalmír. Deoráwal was founded by Deoráj, with whom the title of Ráwal commenced, and who is esteemed the real founder of the present ruling family. He is said to have been born in 836. In 1156, Jáisal, the sixth in succession from Deoráj, founded the fort and city of Jáisalmír (Jeysulmere), and made it his capital. Jáisal was succeeded by several warlike princes, who were constantly engaged in battles and raids. But their taste for freebooting proved most disastrous. On two occasions, viz. in 1294, and shortly afterwards, the Bhatis so enraged the Emperor Alá-ud-dín, that the imperial army captured and sacked the fort and city of Jáisalmír, so that for some time it remained completely deserted. The reign of Ráwal Sabal Sinh marks an epoch in Bhati history, for this prince, by acknowledging the supremacy of Sháh Jahán, was the first of his line to hold his dominions as a fief of the Delhi empire. Jáisalmír had now arrived at the height of its power; the territory extended north to the Sutlej, and comprised the whole of Baháwalpur westward to the Indus, and to the east and south included many Districts subsequently annexed by the Ráhtors, and incorporated in Jodhpur and Bíkaner. But from this time till the accession of Ráwal Mulráj in 1762, the fortunes of the State rapidly declined, and most of the outlying Provinces were wrested from Jáisalmír. Owing, however, to its isolated situation, this State escaped the ravages of the Marhattás. Mulráj was the first chief of Jáisalmír with whom the British Government entered into political relations. In 1818, a treaty was concluded with Mulráj, by which the succession was guaranteed to his posterity; the chief was to be protected from serious invasions and dangers to his State, provided he was not the originator of the quarrel; and was to act in subordinate co-operation with the British Government. No tribute was demanded from him. Since the death of Mulráj in 1820, there have been no stirring events in Jáisalmír. He was succeeded by his grandson Gaj Sinh, who died in 1846, and whose widow adopted Ranjít Sinh, nephew of Gaj Sinh. On the death of Ranjít Sinh in 1864, his younger brother, the present chief, Mahárávwal Bairi Sál, who was born in 1848, came to the throne.

The ruler of Jáisalmír is styled Mahárávwal, and holds his position as head of the clan of Bhatis. The constitution may be described as a tribal suzerainty in process of conversion to the feudal stage. The Bhatis are divided into numerous clans, which do not all spring from one brotherhood, as is the case with the Ráhtors. Many of the tribal chiefs, although acknowledging the Mahárávwal as their suzerain, are to a great extent independent, and they hold their estates revenue free. In some cases, the land is equally divided amongst all the sons, whilst in others the eldest son succeeds, and the younger brothers obtain

only small portions as their inheritance. The Bhatis retain their Hindu notions, though with some degree of laxity, derived from their intercourse with Muhammadans on the northern and western frontiers. The Districts are governed by Hákims (Magistrates), who have, however, but little real power on the estates of the Thákurs (Rájput chiefs).

Agriculture.—Throughout Jáisalmír, only rain crops, such as *bájra, joár, moth, tíl,* etc., are grown; spring crops of wheat, barley, etc. are rare. The system of cultivation is very rude. When the rainy season commences, the sandhills are ploughed by camels, and the seed is planted very deep in the ground. After it has sprouted, a few showers, at long intervals, bring it to maturity, and as the light-built desert camels are quick movers, each householder is able to put a large extent of ground under crop. Owing to the scanty rainfall, irrigation is almost unknown. The land revenue is paid in kind. Wherever wheat or gram is grown, the State takes from the cultivators from a fourth to a sixth; and of the rain crops, from a seventh to an eleventh part of the produce. There are three different modes of collecting the State share of the out-turn. In the first case, the crop is valued when standing; in the second case, when cut, but before threshing; in the third case, after it has been threshed out. In addition to the portion payable to the State, the cultivator has to settle the demands of the officials who look after the crops, also of the grain storekeeper and the Mahárávwal's water supplier; these demands generally average half as much again as is taken by the State. *Jágírdárs* take from their tenants of the cultivating class 2 rupees rent for as much land as can be cultivated with one pair of bullocks; other tenants are permitted to till as much ground as they like rent free, on condition of military service. There are 461 villages in Jáisalmír, of which 229 are fiscal, 71 are held by *jágírdárs,* 32 as charitable grants, 11 under title deed, 109 in *bhúm* (under which tenure the holder has to perform service for the State when called upon, for which he receives payment), and 9 for services performed to the State.

Population. — No Census of the population of Jáisalmír has ever been taken, but it is estimated that the total number of inhabitants does not exceed 72,000, or only 4·37 to the square mile. Of these, 43,500 are said to be Hindus, 26,000 Muhammadans, and 2500 Jains. The majority lead a wandering life, grazing their flocks and herds. As a rule, the people cannot be considered well-to-do. Women wearing ornaments, even of the simplest description, are rarely seen.

Trade, etc.—There are no manufactures of any kind, beyond the making of blankets of sheep's wool, and the cutting of platters and cups from stone found in the country. Large herds of camels, horned cattle, sheep, and goats are kept. The principal trade of Jáisalmír is

in wool, *ghí*, camels, cattle, and sheep, all of which find a ready market in Guzerat and Sind. Grain, sugar, foreign cloth, piece-goods, and other miscellaneous articles, form the chief imports. Neither the manufactures nor the crops suffice for local wants.

Administration.—There is one civil court at Jáisalmír. Criminal cases are disposed of by the *díwán* (chief minister) at the capital, and in the interior by the *hákims* of the Districts. The Maháráwal alone has the power of life and death. There is no regular jail at Jáisalmír. Prisoners are confined in the fort, or in such places as the authorities may choose to place them. Education is at a very low ebb in the State. Government schools are non-existent. Jain priests are the chief schoolmasters, but their teaching is very elementary. There are no made roads in the State.

The revenues of Jáisalmír, as compared with its area, are very small, amounting only to about £10,000. In 1873-74 (according to the Report of the Rájputána Agency, 1875-76), the income of the State was said to amount to £11,854; the expenditure being £15,911. This low total is to be accounted for partly by the poverty of the country, and partly owing to the fact that the greater portion of the land belongs to feudal chiefs, related to the ruling family.

The Maháráwal has a force consisting of 651 infantry, 375 of whom are generally on duty at the capital, and 276 in the Districts. Of the latter, many are mounted on camels, the animal ordinarily used for locomotion in these sandy tracts. The cavalry number 155, equally distributed between the capital and the Provinces. Of these, 40 are Síkhs, and the rest of the force, both infantry and cavalry, are natives of Rájputána or of the bordering Districts of Sind. These men are armed chiefly with the ordinary matchlock, sword, shield, or spear of the country, but have no drill or discipline. They are, however, very efficient as police.

Jáisalmír (*Jeysulmere*).—The capital of the Rájput State of the same name, situated in a broad belt of low rocky ridges. Lat. 26° 55′ N., long. 70° 57′ E. It was founded in the year 1156 by Ráwal Jáisal, and chiefly built of yellow sandstone. At a short distance, the colour of the walls gives an appearance of mud; but on closer inspection, the excellent quality of the stone cannot fail to attract attention, not only for its durability, but for its fine grain, affording great scope to the skilled architect. This has been thoroughly appreciated by the wealthy inhabitants, for in few places is found such exquisite carving in stone as that which decorates the houses of some of the opulent Oswál and Palliwál merchants in Jáisalmír. The fort caps a small hill, which overlooks the town. Its elevation may be estimated at 250 feet, and the length at about 350 yards. The walls, which afford a double line of defence, are about 25 feet in height, and of great strength, being constructed with large

blocks of the same sandstone as that of which the city is built. The plan of the fortification is very peculiar. It is apparently a succession of towers or circular bastions, the connecting curtains being also curved. Huge round boulders lie in close array along the battlements, ready for offensive purposes in case of assault. The view from the ramparts is not attractive. The foreground presents a succession of sterile rock-bound ridges, barely clad with a few stunted bushes, whilst on the horizon low undulations mark the commencement of the still more arid Indian Desert. The Maháráwal's palace surmounts the main entrance of the fort, but the interior is ill-arranged, and frittered away in numberless small apartments. Water is obtained from three good wells within its precincts. The Jain temples in the fort are remarkable for their beautiful stone carving. The oldest was built in A.D. 1371.

Jáisinhnagar.—Chief place in the tract of the same name, Ságar (Saugor) District, Central Provinces. Lat. 23° 38′ N., and long. 78° 37′ E.; 21 miles south-west of Ságar town. Pop. (1870), 2555. Founded about 1690 A.D. by Rájá Jái Sinh, the ruler of Old Ságar, who built a fort, still remaining, to protect the country from the raids of small predatory chiefs. At the cession of Ságar (Saugor) to the British in 1818, this tract was included; and in 1826, it was assigned as a residence for Rukmá Báí, one of the widows of Apá Sáhib. Bi-weekly market, with trade in grain, cloth, and provisions; 2 village schools, for boys and girls respectively.

Jáitak.—Hill fortress in Sirmúr State, Punjab, crowning a steep ridge of slate, which rises above the Khiárda Dún. Lat. 30° 36′ N., long. 77° 24′ E. During the war in 1814, the Gúrkhas occupied this position with a garrison of 2200 men. They were attacked by two British detachments, 1700 strong, but without success; and it was not until after a tedious series of operations that the fort was finally captured in the following year. Elevation above sea level, 4854 feet.

Jáitápur.—Seaport in the Rájápur Subdivision of Ratnágiri District, Bombay. Lat. 16° 37′ 30″ N., and long. 73° 24′ 30″ E.; average annual value of trade for five years ending 1873-74, £121,645—viz. exports, £10,043; imports, £111,602. The Jáitápur lighthouse is situated on the mainland at the southern point of the Rájápur Hill. Height of lantern above high-water, 75 feet.

Jáitpur.—Decayed town in Hamírpur District, North-Western Provinces, and former capital of a Native State. Lat. 25° 15′ 35″ N., and long. 79° 36′ 25″ E.; pop. (1872), 5159, consisting of 4764 Hindus and 395 Muhammadans. Picturesquely situated on the banks of the Bela Tál, 65 miles south-west of Hamírpur. Probably founded in the early part of the 18th century by Jagatráj, son of the famous Bundela Rájá, Chatar Sál, who built the large fort still in existence. His

descendants held the town and surrounding principality until a period subsequent to the British conquest of Bundelkhand; but on the occasion of our reverses at Kábul in 1842, the last Rájá broke into rebellion, and, being captured, died a pensioner at Cawnpore, while his territories reverted to the British Government. His son still resides at Naugáon, and receives a pension of £600 per annum. The town resembles a collection of separate villages, fully 2 miles in length, but very narrow. Handsome temple; two forts, one of which could contain almost the whole population; police outpost; village school. Small trade in grain; manufacture and dyeing of country cloth. The Bela Tál, a tank or lake, dammed up with solid masonry by the Chandel rulers of Mahobá in the 9th century, extends for 5 miles in circumference, but is now very shallow, the embankment having burst in 1869. Two canals, deriving their supply from the tank, irrigated an area of 211 acres in 1870-71.

Jájámau.—Town in Unao District, Oudh; situated 1 mile north of the Ganges, and 22 north-west of Unao town. Lat. 26° 56′ N., and 80° 14′ E. Founded in the reign of Aurangzeb by Jáji Sinh Chandel, ancestor of the present *tálukdár*. Pop. (1869), 2466, exclusively Hindus.

Jájmau.—*Tahsíl* of Cawnpore District, North-Western Provinces, lying along the southern bank of the Ganges, and containing the city of Cawnpore. The soil is largely cut up by ravines. Area, 264 square miles, of which 148 are cultivated; pop. (1872), 266,670; land revenue, £29,567; total Government revenue, £32,531; rental paid by cultivators, £44,561; incidence of Government revenue per acre, 3s. 6d.

Jájmau.—Town in Jájmau *tahsíl* in Cawnpore District, North-Western Provinces; situated on the right bank of the Ganges. Lat. 26° 26′ N., long. 80° 28′ E.; 6 miles south-east of Cawnpore by land and 5 by water. Now an unimportant village, but once of some note. *Bázár.*

Jájpur.—Subdivision of Cuttack District, Bengal. Lat. 20° 30′ to 21° 10′ 10″ N., long. 85° 44′ to 87° 3′ 30″ E.; area, 1154 square miles; townships, 2096; houses, 97,776. Pop. (1872), 520,545, of whom Hindus number 497,193, or 95·5 per cent.; Muhammadans, 10,328, or 2 per cent.; Christians, 95; 'others,' 12,929, or 2·5 per cent. Proportion of males, 47·8 per cent.; average density of population, 451; number of townships per square mile, 1·81; persons per township, 248; houses per square mile, 84; inmates per house, 5·3. This Subdivision comprises the 3 police circles (*thánás*) of Jájpur, Dharmsálá, and Ulabár. One magisterial and revenue court in 1870-71; regular police, 149 men; village watch, 1466 men; cost of administration returned at £4357, 4s.

Jájpur.—Municipal town and headquarters of Subdivision of same name in Cuttack District, Bengal; on the right bank of the Baitaráni

river, in lat. 20° 50′ 45″ N., long. 86° 22′ 56″ E.; pop. (1872), 10,753; gross municipal revenue (1876-77), £74; rate of taxation, 1¼d. per head of population. The town contains the usual Subdivisional and public buildings; charitable dispensary; Government aided Anglo-vernacular school, etc. It was the chief town of the Province under the Kesari dynasty until the 11th century, when it was superseded by Cuttack, the modern capital. Jájpur is celebrated for its settlements of Bráhman Sivaite priests, and as the headquarters of one of the four regions of pilgrimage into which Orissa is divided, viz. that sacred to Parvatí, the wife of the All-Destroyer. In Jájpur are numerous ruins of Sivaite temples, sculptures, etc. For a description of these remains, see *Statistical Account of Bengal*, xviii. pp. 85-89 (quoted from *Orissa*). In the 16th century, this town was the scene of the struggle between Musalmán and Hindu power, from which it emerged in ruins. It, however, still ranks as the fourth town of Orissa, and derives much wealth from its yearly fair in honour of Baruní, 'Queen of the Waters,' on which occasion crowds of pilgrims flock to bathe in the holy Baitaraní, the Styx of Hindu mythology.

Jájpur.—Town in Udáipur (Oodeypore) State, Rájputána. Lat. 25° 38′ N., long. 75° 19′ E.; 63 miles south-east of Nasírábád (Nusseerabad), and 278 north-west of Ságar (Saugor). Good water supply; large *bázár*. The fort, which possesses considerable strength, is situated on an isolated peak, and commands the pass leading from Bundí (Boondee) into Udáipur. (Condensed from Thornton.)

Jakháwu.—Seaport in the Native State of Cutch (Kachh), Bombay. Lat. 23° 14′ 30″ N., long. 68° 45′ E.; 64 miles south-west of Bhuj. Pop. (1872), 5145.

Jakhun.—One of the petty States in Jhaláwár, Káthiáwár, Bombay. It consists of 1 village, with 2 independent tribute-payers. The revenue is estimated at £157; and tribute of £24 is paid to the British Government, and £4 to Junágarh.

Jakkatála.—Military station in the Nílgiri Hills, Madras. —*See* WELLINGTON.

Jako.—Mountain peak in Simla District, Punjab, overhanging the station of Simla. Lat. 31° 5′ N., long. 77° 15′ E. The ridge, upon which stands the sanatorium and summer capital, culminates eastward in this noble height, 8000 feet above sea level, and 1000 feet above the general elevation of the houses. Woods of *deodár*, pine, oak, and rhododendron clothe its side and summit. Its circuit, by a tolerably level road, about 1000 feet below the peak, measures upwards of 5 miles. The houses of Simla Station cluster most thickly upon the flanks of Jako and two neighbouring hills.

Jalálábád.—Town in Afghánistán, lying at a height of 1946 feet, in a plain on the south of the Kábul river. Lat. 34° 24′ N., long. 70° 26′ E.

It is by road 100 miles from Kábul, and 91 from Peshawar. Between it and Pesháwar intervene the Khaibar and other adjoining passes; between it and Kábul, the passes of Jagdalak, Khurd-Kábul, etc. In 1840, the town, though its walls had an extent of 2100 yards, contained only 300 houses, and a permanent population of 2000. The walls formed an irregular quadrilateral in a ruinous state, surrounded on all sides by buildings, gardens, the remains of the ancient walls, etc., affording cover to an assailant. The town walls were destroyed by Pollock, but have been restored.

The Province under Jalálabad is about 80 miles in length by 35 in width, and includes the large District of Laghmán, north of the Kábul river, as well as that on the south, which is called Nangnihár. The former name, properly Lamghán, the seat of the ancient *Lampagæ*, is absurdly derived by Muhammadans from the patriarch Lamech, whose tomb they profess to show; the latter name is interpreted (in mixed Pushtu and Arabic) to mean 'nine rivers,' an etymology supported by the numerous streams. The word is, however, almost certainly a distortion of the ancient Indian name *Nagarahára*, borne by a city in this plain long before the time of Islám, and believed to have been the *Nagara* or *Dionysopolis* of Ptolemy. Many topes and other Buddhist traces exist in the valley, but there are no buildings of any moment intact. Baber laid out fine gardens here; and his grandson (Jalál-ud-dín) Akbar built Jalálábád. Hindus form a considerable part of the town population, and have a large temple. The most notable fact in the history of Jalálábád is the stout and famous defence made from November 1841 till April 1842 by Sir Robert Sale with his 'illustrious garrison.' Jalálábád was occupied by British troops during the Afghán campaign of 1878-79.

Jalálábád.—Town in Hardoi District, Oudh; 6 miles south-east of Mallánwán town. Pop. (1869), 2051, chiefly Kanaujia Bráhmans, residing in 363 mud houses. Bi-weekly market.

Jalálábád. — Town in Muzaffarnagar District, North-Western Provinces. Lat. 29° 37′ N., long. 77° 28′ 45″ E.; pop. (1872), 6904, consisting of 3249 Hindus and 3655 Muhammadans, the latter chiefly Patháns. Situated near the little river Krishni, 21 miles north-west of Muzaffarnagar. The celebrated fort of Ghansgarh, built by the Rohillá leader Najíb Khán, lay at a short distance from the town. Jalálábád was often sacked by the Marhattás during the rule of Zábita Khán, and one member of that race still holds revenue-free grants in the neighbourhood. The Síkhs afterwards harried the country; and nothing now remains of the site of Ghansgarh except mud walls, scattered bricks, and the ruins of a mosque. The town still possesses a considerable trade in local produce, and a channel of the Eastern Jumna Canal irrigates the surrounding country.

Jalálábád.—Southern *tahsíl* of Sháhjahánpur District, North-Western Provinces, lying along the north bank of the river Ganges. Area, 317 square miles, of which 198 are cultivated; pop. (1872), 164,336; land revenue, £21,210; total Government revenue, £23,331; rental paid by cultivators, £42,018; incidence of Government revenue per acre, 2s. 1⅛d.

Jalálábád.—Agricultural town in Sháhjahánpur District, North-Western Provinces, and headquarters of the *tahsíl* of the same name. Lat. 27° 43′ 20″ N., long. 79° 41′ 53″ E. Pop. (1872), 7127, consisting of 3687 Hindus and 3440 Muhammadans. Situated in lat. 27° 43′ 20″ N., and long. 79° 41′ 53″ E., on the plain 4 miles north of the Rámganga river and 19 miles south of Sháhjahánpur. Boats from Cawnpore ascend the Rámganga as far as Kola Ghát, opposite this town, where they receive cargoes of wheat and other foodstuffs. Government charitable dispensary.

Jaláli.—Ancient agricultural town in Alígarh District, North-Western Provinces. Lat. 27° 51′ 35″ N., long. 78° 17′ 35″ E.; 14½ miles south-east of Alígarh. Pop. (1872), 7480, consisting of 4689 Hindus and 2791 Muhammadans. Stands on a high site, between two raised distributaries of the Ganges Canal, in an isolated position, with no good roads. Eighty Musalmán places of worship; large and influential body of Shiá Sayyids, regarded as the leaders of their sect in the Upper Doáb. No trade.

Jalálkherá.—Town in Nágpur District, Central Provinces. Lat. 21° 23′ N., long. 78° 27′ E.; about 14 miles west of Kátol, near the junction of the Jám with the Wardha. Pop. (1870), 3396, chiefly cultivators. According to tradition, the place once contained 30,000 inhabitants, but was ruined by the ravages of a band of Patháns. The remains of a large fort, said to be of Gaulí origin, still exist; and for 2 square miles around the village may be found traces of the old town. Probably Jalálkherá with Amner on the Berar side of the river, once formed a single large city.

Jalálpur.—North-western *tahsíl* of Hamírpur District, North-Western Provinces, lying along the south bank of the river Betwa. Area, 419 square miles, of which 213 are cultivated; pop. (1872), 83,356; land revenue, £19,827; total Government revenue, £20,992; rental paid by cultivators, £35,029; incidence of Government revenue per acre, 1s. 5¾d.

Jalálpur.—Municipal village in Multán (Mooltan) District, Punjab. Lat. 29° 30′ 15″ N., long. 71° 16′ E.; lying in the tongue of land between the Sutlej and the Trimáb, a few miles from their confluence. Pop. (1868), 3633. Municipal revenue (1875-76), £281, or 1s. 7d. per head of population (3489) within municipal limits.

Jalálpur.—Agricultural village in Jhelum (Jhílam) District, Punjab.

Pop. (1868), 2819. Situated in lat. 32° 39′ 30″ N., and long. 73° 27′ E., close to the right bank of the Jhelum river. Headquarters of a subordinate police jurisdiction. The village has been identified by General Cunningham with the site of the ancient Bucephala, built by Alexander the Great in memory of his famous charger, which was killed in the battle with Porus at the crossing of the Jhelum. Remains of ancient walls still crown the summit of the hills, which rise to a height of 1000 feet above the village. Coins found among the ruins date back to the period of the Græco-Bactrian kings. Even in the time of Akbar, the town covered a site four times as large as that which it now occupies; but since the foundation of Pind Dádan Khán, and the shifting of the river channel 2 miles eastward, it has undergone a constant decay.

Jalálpur.—Municipal town in Gujrát District, Punjab. Lat. 32° 21′ 35″ N., long. 74° 15′ E.; 8 miles north-east of Gujrát. Pop. (1868), 15,526, consisting of 4261 Hindus, 11,035 Muhammadans, 148 Síkhs, and 82 'others.' Forms the principal trade mart of the District, and has a considerable manufacture of shawls, the work of a Kashmíri colony, exported chiefly to Amritsar. Municipal revenue in 1875-76, £642, or 10⅞d. per head of population (14,022) within municipal limits.

Jalálpur-Dehi.—Town in Rái Bareli District, Oudh; 8 miles east of Dalmau, and 16 south-east of Rái Bareli town. Lat. 26° 2′ N., long. 81° 62′ E. Founded close to the site of an ancient and ruined town, named Dehi, by one Jalál-ud-dín, upon whom it was conferred as a *jágír* by Ibráhim Sharki of Jaunpur. Pop. (1869), Hindus, 1219; Muhammadans, 744; total, 1963, residing in 362 houses. Government schools.

Jalálpur-Nahvi.—Town in Faizábád (Fyzabad) District, Oudh; 52 miles from the headquarters town. Lat. 26° 37′ 10″ N., long. 82° 10′ 30″ E. Pleasantly situated on the banks of the Tons river, which here runs in a very winding channel, between high and precipitous banks. Pop. (1869), Muhammadans, 4014; Hindus, 2186; total, 6200, residing in 1530 houses. A flourishing weaving town. An *imámbára* outside the town was built about a century ago, at a cost of £400, by contributions from the weaving community, each man contributing a quarter of a pice for each piece of cloth wrought by him. The circumstance was brought to the notice of the King of Oudh, who highly commended the weavers for their piety and liberality, and ordered them to continue the subscription, but to pay the proceeds into the royal treasury as a contribution to himself.

APPENDICES.

I REPRODUCE the following Tables exactly as they have been presented to Parliament. Where they differ in any detail from the figures given in the *Imperial Gazetteer*, the discrepancy usually arises from the circumstance that a further scrutiny of the materials, since these Tables were published, have in a few cases led me to slightly different results. I have not, however, deemed it proper to break up or alter the following Statements, as authoritatively presented to Parliament; even although they exhibit small discrepancies within themselves.

APPENDIX I.—AREA, VILLAGES, HOUSES, AND POPULATION IN BRITISH INDIA.

PROVINCES.	Area in square miles.	Villages, Townships, etc.	Inhabited Houses.	Population.	AVERAGE NUMBER OF—				
					Persons per square mile.	Villages, etc., per square mile.	Persons per village, etc.	Houses per square mile.	Persons per house.
Bengal,[1] . .	157,598	177,044	10,481,132	60,467,724	397	1·16	338	69	5·77
Assam,[2] . .	53,856	10,715	670,078	4,132,019	99	·39	359	24	5·73
N.W. Provinces,	81,403	90,684	6,359,092	30,781,214	378	1·11	339	78	4·84
Ajmere, . .	2,661	923	91,199	316,032	119	·35	342	34	3·47
Oudh, . . .	23,992	24,784	2,438,006	11,220,232	468	1·03	453	102	4·60
Punjab, . .	101,829	35,740	4,124,857	17,611,498	173	·35	493	41	4·27
Cent. Provinces, .	84,963	31,555	1,674,291	8,201,519	97	·37	260	20	4·90
Berar, . . .	17,334	5,694	495,760	2,231,565	129	·33	392	29	4·70
Mysore, . .	27,077	19,630	1,012,738	5,055,412	187	·72	258	37	4·99
Coorg, . .	2,000	495	22,900	168,312	84	·25	340	11	7·35
British Burma, .	88,556	14,107	535,533	2,747,148	31	·16	195	6	5·13
Madras, . .	138,318	55,421	5,857,994	31,281,177	226	·40	564	42	5·60
Bombay, . .	124,462	26,652	3,277,679	16,349,206	131	·21	614	26	4·99
Total,[3] .	904,049	493,444	37,041,259	190,563,048	211	·55	386	41	5·14

[1] In calculating the averages for Bengal, the area of the Sundarbans is excluded.

[2] The averages for Assam are only calculated on the figures for the Districts in which the number of houses or villages was reckoned.

[3] Aden and the Andaman and Nicobar Islands are excluded from all the statements, as not, geographically speaking, being in British India.

N.B.—The above Table includes about 4 millions of people under Native Chiefs superintended directly by the Provincial Governments. It is taken from the Abstract of the Census of 1871-72 presented to Parliament.

2 Y

APPENDIX II.—Towns and Villages in British India, classified according to Population.

Provinces.	Number of Towns and Villages												
	Having less than 200 Inhabitants.	Having 200 to 500 Inhabitants	Having 500 to 1000 Inhabitants.	Having 1000 to 2000 Inhabitants.	Having 2000 to 3000 Inhabitants	Having 3000 to 5000 Inhabitants.	Having 5000 to 10,000 Inhabitants.	Having 10,000 to 15,000 Inhabitants.	Having 15,000 to 20,000 Inhabitants.	Having 20,000 to 50,000 Inhabitants.	Having above 50,000 Inhabitants [1]	Having Number of Inhabitants unspecified.	Total No. of Towns, etc.
Bengal,	94,976	50,535	21,454	7,812	1,393	612	178	42	8	24	8	...	177,042
Assam,	5,134	3,611	1,349	430	110	58	19	3	1	—	...	...	10,715
North-Western Provinces,	49,064	26,368	10,612	3,449	695	293	137	26	13	14	13	...	90,684
Ajmere,	586	224	85	28	10	9	...	1	1	1	...	...	945
Oudh,	8,243	8,519	4,756	1,611	403		40	12	4	1	1	1,194	24,784
Punjab,	15,735	10,928	5,528	2,460	656	286	99	21	8	14	5	...	35,740
Central Provinces,	18,973	9,243	2,545	581	119	55	26	5	3	3	2	...	31,555
Berar,[2]		5,424			240		23	5	...	2	...	...	5,694
Mysore,[2]	11,935	5,540	1,633	412	58	30	17	3	...	...	2	...	19,630
Coorg,	239	152	81	20	1	1	1	...	...	...	...	...	495
British Burma,	9,873	3,594	503	93	16	8	10	3	3	3	1	...	14,107
Madras,	14,509	13,407	9,507	4,997	1,308	856	393	47	11	22	6	10,323	55,386
Bombay,	9,813	8,868	4,774	2,205	506	309	117	39	4	11	6	...	26,652
Total,	448,320			32,130			1,060	207	56	95	44 [1]	11,517	493,429

[1] In this statement the cities of Calcutta, Madras, and Bombay are each reckoned as one town. [2] Temporarily under British administration.

N.B.—This Table, No. II., is taken from the Parliamentary Statistical Extract relating to British India, 1879.

APPENDIX III.—Cultivable and Uncultivable and Cultivated Land in Provinces for which Returns exist.

Provinces.	Uncultivable, in square miles.	Cultivable, in square miles.	Cultivated, in square miles.	Unspecified, in square miles.	Total Square Miles.
North-West Provinces,	26,727	12,109	42,174	393	81,403
Oudh,	5,269	4,667	13,529	527	23,992
Punjab,	46,613	22,434	32,706	76	111,829
Central Provinces,	39,844	21,845	23,274	...	84,963
Berar,	6,456	3,252	7,349	277	17,334
Mysore,	15,026	3,940	8,111	...	27,067
Coorg,	1,715	122	163	...	2,000
British Burma,	49,192	35,117	3,414	833	88,556
Total,	190,842	103,486	130,720	2,106	427,154

APPENDIX IV.—POPULATION OF BRITISH INDIA, CLASSIFIED ACCORDING TO SEX AND AGE.

PROVINCES.	MALES.				FEMALES.				BOTH SEXES.				GRAND TOTAL.
	Boys under 12.	Adults above 12.	Age unspecified.	Total.	Girls under 12.	Adults above 12.	Age unspecified.	Total.	Children under 12.	Adults above 12.	Age unspecified.	Sex and Age unspecified.	
Bengal, . .	11,304,521	18,906,435	...	30,210,956	9,415,607	20,841,161	...	30,256,768	20,720,128	39,747,596	...	35,173 [1]	60,502,897
Assam, . .	809,970	1,315,557	...	2,125,527	697,097	1,302,315	...	1,999,412	1,507,067	2,617,872	...	37,080	4,162,019
N.W. Provinces,	5,585,710	10,817,153	10,779	16,413,642	4,650,269	9,711,415	5,878	14,367,562	10,235,979	20,528,568	16,657	...	30,781,204
Ajmere, . .	68,300	143,967	...	212,267	57,121	126,943	...	184,064	125,421	270,910	...	558 [2]	396,889
Oudh, . .	2,186,247	3,636,119	...	5,822,366	1,843,467	3,554,399	...	5,397,866	4,029,714	7,190,518	...	...	11,220,232
Punjab, . .	3,390,054	6,205,380	...	9,595,434	2,858,031	5,158,033	...	8,016,064	6,248,085	11,363,413	...	...	17,611,498
Cent. Provinces,	1,624,645	2,547,556	...	4,172,201	1,495,637	2,533,681	...	4,029,318	3,120,282	5,081,237	...	...	8,201,519
Berar,[3] . .	422,055	731,142	...	1,153,197	374,136	704,232	...	1,078,368	796,191	1,435,374	...	3,911 [3]	2,227,654
Mysore, . .	922,936	1,612,988	...	2,535,924	896,290	1,623,198	...	2,519,488	1,819,226	3,236,186	...	...	5,055,412
Coorg, . .	28,641	65,813	...	94,454	26,440	47,418	...	73,858	55,081	113,231	...	...	168,312
British Burma, .	505,986	929,532	...	1,435,518	485,449	826,181	...	1,311,630	991,435	1,755,713	...	...	2,747,148
Madras, . .	5,808,607	9,659,122	254,577	15,722,306	5,584,364	9,779,260	195,247	15,558,871	11,392,971	19,438,382	449,824	391,436 [4]	31,672,613
Bombay, . .	3,129,892	5,431,697	...	8,561,589	2,798,292	4,989,325	...	7,787,617	5,928,184	10,421,022	...	...	16,349,206
Total, . .	35,787,564	62,002,461	265,356	98,055,381	31,182,200	61,197,561	201,125	92,580,886	66,969,764	123,200,022	466,481	458,020	191,096,603

[1] Due to the exclusion of the population of Angul and Banki, two lapsed estates in Cuttack, 127,800; and the inclusion of the population of Saraikalá and Kharsawán, 92,627, which should be treated as Native States.

[2] Europeans not included in the Census.

[3] In Berar, the line distinguishing children from adults was drawn at the age of 13. The population is now estimated to be less by 5069 than that recorded in the Census of 1867.

[4] Part of the population of the Jáipur *Zamíndárí* omitted from the Census Report.

N.B.—This Table, No. IV., is taken from the Parliamentary Statistical Abstract relating to British India, 1879.

APPENDIX V.—POPULATION OF BRITISH INDIA, CLASSIFIED ACCORDING TO CASTE AND NATIONALITY.

PROVINCES.	HINDOOS AND PERSONS OF HINDU ORIGIN.							
	Bráhmans.	Kshattriyas and Rájputs.	Other Castes.	Caste unspecified.	Out-castes, or not recognising Caste.	Native Christians.	Aboriginal Tribes, or Semi-Hinduized Aborigines.	Total.
Bengal,	2,312,929	1,222,549	24,930,547	467,055	650,477	47,828	11,116,883	40,748,268
Assam,	105,901	6,602	1,194,183	111,838	22,067	1,293	1,490,888	2,932,772
North-West Provinces,	3,234,342	2,395,688	20,501,303	56,595	...	7,648	377,674c	26,573,250
Ajmere,	15,397	14,330	223,269	...	...	249	...	253,245
Oudh,	1,397,808	662,946	7,655,116	136,073	...	...	90,490	9,942,433
Punjab,	800,547	719,121	5,735,667e	...	36,190	2,675	959,720	8,253,920
Central Provinces,	287,168	176,948	5,415,834	...	407,939	4,674	1,669,835	7,962,398
Berar,	49,843	36,831	1,524,508	...	301,379	...h	163,059	2,075,620
Mysore,	169,637	67,358	3,680,665	...	813,975	18,104	89,067	4,838,806
Coorg,	3,270	2,800	71,900	...	34,100	2,000	42,516	156,586
British Burma,	775	1,257	18,464	14,750	1,585,532i	2,304k	1,004,991	2,628,073
Madras,	1,095,445	190,415	22,802,223	...	4,782,757	490,299	...	29,361,139
Bombay,	658,479	144,293	11,791,878	...	78,582	18,741	711,702	13,403,675
Total,	10,131,541	5,641,138	105,545,557	786,311	8,712,998	595,815	17,716,825	149,130,185

PROVINCES.	MUHAMMADANS AND PERSONS OF MUHAMMADAN ORIGIN.					
	Sayyids.	Shaiks.	Patháns.	Mughals.	Other Castes, or unspecified.	Total.
Bengal,	63,377	1,069,497	140,842	16,981	18,262,723	19,553,420
Assam,	1,287	371	646	10	1,102,373	1,104,687
North-West Provinces,	152,965	2,128,244	537,391	37,216	1,332,935	4,188,751
Ajmere,	2,973	53,232	...	1,779	4,738	62,722
Oudh,	51,679	166,516	191,880	26,672	674,543	1,111,290
Punjab,	212,540	...	716,090	99,026	8,074,832	9,102,488
Central Provinces,	15,487	81,798	52,811	8,273	74,594	232,963
Berar,	19,534	88,466	37,787	4,431	4,733	154,951
Mysore,	...	...	...	...	208,793	208,793
Coorg,	...	...	...	...	11,298	11,298
British Burma,	53	64,606	7,724	561	22,687	95,631
Madras,	89,219	511,112	70,943	12,407	1,188,533	1,872,214
Bombay,	181,870	536,478	85,579	12,399	1,712,018	2,528,344
Total,	790,984	4,700,320	1,841,693	219,755	32,674,800	40,227,552

PROVINCES.	Asiatics not Natives of India.	Mixed Races.	NON-ASIATICS.						
			British.	Other Europeans.	Europeans, unspecified.	Americans, Africans, Australians.	Total.	Unspecified.	Grand Total.
Bengal,	33,248	20,195	16,841	2,342	...	2,730	21,913	90,680a	60,467,724
Assam,	13,782	84	610	63	...	21	694	80,000b	4,132,019
North-West Provinces,	574	2,701	8,157	331	3,822	123	12,433	3,495	30,781,204
Ajmere,	65	...	...	...	...	...	...	...	316,032
Oudh,	467	990	...	...	6,771	...	6,771	158,281d	11,220,232
Punjab,	235,537	1,559	17,803	34	93f	64	17,994	...	17,611,498
Central Provinces,	371	1,422	288	25	4,052	11	4,376	-11g	8,201,519
Berar,	91	...	...	...	...	...	...h	903h	2,231,565
Mysore,	241	2,920	3,615	103	916	18	4,652	...	5,055,412
Coorg,	18	229	142	18	19	2	181	...	168,312
British Burma,	14,026	4,189	4,371	403	227	153	5,154	75	2,747,148
Madras,	2,121	26,426	...	...	14,553	...	14,553	4,724	31,281,177
Bombay,	240,448	47,687	23,907	4,681	...	3,839	32,427	96,625	16,349,206
Total,	540,989	108,402	75,734	8,000	30,453	6,961	121,148	434,772	190,563,048

a In Jalpáiguri. *b* In the Gáro Hills.
c Including those distinguished by nationality only.
d Including 130,548 religious mendicants and 18,848 travellers.
e Including Sikhs. *f* Christians, nationality unspecified.
g The numbers given under each description exceed the total population by 11.
h There are 903 Christians in Berar, but their nationality is not stated.
i Of these, 1,583,792 are Burmese proper.
k These are Hindus only, excluding Karengs, etc.; the total number of Native Christians in British Burma is elsewhere stated to be 34,310.

N.B.—This Table, No. V., is taken from the Abstract of the Census of 1871-72 presented to Parliament.

APPENDIX VI.—ASIATIC NON-INDIAN POPULATION OF BRITISH INDIA, CLASSIFIED ACCORDING TO NATIONALITY.

PROVINCES.	Abyssinian.	Afghán.	Arab.	Armenian.	Baluch.	Bhutia.	Brahui.	Kashmír.	Chinese.	Japanese.	Jew.	Malay.	Mekrani.	Manipuri.	Nepalese.	Pársi.	Persian.	Siamese.	Syrian.	Turk.	Other, or unspecified.	TOTAL.
Bengal,	...	131	...	910	...	11	...	...	574	...	574	21	...	58	29,468	1,223	277	...	1	...	...	33,248
Assam,	...	...	...	3	...	328	...	...	8	...	...	...	...	11,808	1,635	...	...	...	...	...	...	13,782
North-West Provinces,	...	155	11	75	...	...	...	110	115	...	6	...	...	...	79	2	4	...	...	17	...	574
Ajmere,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	65	...	...	...	...	...	65
Oudh,	90	...	3	...	...	...	...	...	...	...	185	...	...	...	...	...	179	...	...	10	...	467
Punjab,	...	...	...	...	235,123	...	...	...	...	...	...	...	...	...	...	414	...	...	...	...	...	235,537
Cent. Provinces,	...	289	...	6	...	...	...	...	...	...	2	...	...	...	...	74	...	...	...	...	...	371
Berar,	...	...	...	...	...	...	...	...	...	...	16	...	...	...	...	75	...	...	...	...	...	91
Mysore,	...	116	52	...	...	...	...	...	1	...	...	...	...	...	...	43	29	...	...	...	...	241
Coorg,	...	5	1	...	...	...	...	...	2	...	...	...	...	...	...	10	...	...	...	...	...	18
British Burma,	...	19	33	221	...	...	...	...	12,109	...	95	1,452	...	...	...	39	...	58	...	...	...	14,026
Madras,	...	...	2,121	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,121
Bombay,	...	2,476	6,090	39	144,772	...	845	32	531	3	6,748	20	5,285	...	...	67,531	3,056	...	68	896	2,056	240,448
Total,	90	3,191	8,311	1,254	379,895	339	845	142	13,340	3	7,626	1,493	5,285	11,866	31,182	69,476	3,545	58	69	923	2,056	540,989

N.B.—This Table, No. VI., is taken from the Abstract of the Census of 1871-72 presented to Parliament.

APPENDIX VII.—NON-ASIATIC POPULATION OF BRITISH INDIA, CLASSIFIED ACCORDING TO NATIONALITY.

ROVINCES.	English.	Scotch.	Irish.	Welsh.	Austrian and Hungarian.	Belgian.	Dane.	Dutch.	Finlander.	French.	German and Saxon.	Greek.	Italian.	Norwegian.	Pole	Portuguese.	Prussian.	Russian.	Spanish.	Swede.	Swiss.	Turk.	Other European, or unspecified.	Canadian.	Creole.	Nova Scotian.	West Indians.	Other American, or unspecified.	Africans.	Australasian.	TOTAL.
l,	10,937	2,216	3,555	133	36	12	33	52	6	354	345	101	189	38	20	378	43	43	19	60	13	18	582	32	1	1	2,267	327	83	19	21,913
..	386	140	76	8	...	...	...	...	...	6	9	...	3	...	...	...	...	...	1	...	1	...	43	...	...	...	3	18	...	...	694
Provinces,	5,566	699	1,865	27	2	...	6	9	...	156	63	15	47	1	1	14	4	...	7	...	5	...	3,822	4	...	...	...	104	12	3	12,432
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6,771	...	...	...	...	...	...	...	6,771
b,	17,803	Including all British.			...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	127[1]	...	...	...	...	64	...	...	17,994
l Provinces,	210	29	49	...	...	...	...	...	...	12	1	...	...	...	...	12	...	...	...	...	...	...	4,052	...	...	...	...	6	1	4	4,376
e,	2,302	439	862	12	...	...	...	...	...	37	36	...	...	...	...	...	...	...	...	...	...	..	946	...	...	...	...	5	12	1	4,652
..	100	34	8	...	...	...	...	...	...	2	15	...	...	...	...	...	...	...	...	...	...	...	20	...	...	...	...	1	...	1	181
Burma,	3,495	188	670	18	15	8	6	9	...	64	186	11	43	19	...	22	..	2	5	13	...	...	227	...	...	...	...	93	34	26	5,154
s,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14,553	...	...	...	...	...	...	...	14,553
y,	23,907	Including all British.			...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4,681	...	...	...	...	264	3,550	25	32,427
Total,	64,706	3,745	7,085	198	53	20	45	70	6	631	655	127	282	58	21	426	47	45	32	73	19	18	35,824	36	1	1	2,270	882	3,692	79	121,147

[1] 93 of these belong to 'Miscellaneous' Christian races, their nationality being unspecified.

N.B.—This Table, No. VII., is taken from the Abstract of the Census of 1871-72 presented to Parliament.

APPENDIX VIII.—POPULATION OF BRITISH INDIA, CLASSIFIED ACCORDING TO RELIGION.

PROVINCES.	Hindus.	Síkhs.	Muhammadans.	Buddhists and Jains.	Christians.	Others.	Religion not known.	TOTAL.
Bengal, ...	38,975,418	...	19,553,831	84,974	90,763	1,672,058	125,853[1]	60,502,897
Assam, ...	2,679,507	...	1,104,601	1,521	1,947	16,640	357,803[2]	4,162,019
North-Western Provinces,	26,568,071	1,003	4,189,348	...	22,196	586	...	30,781,204
Ajmere, ...	348,248	...	47,310	...	1,273	58	...	396,889
Oudh, ...	10,003,323	4,752	1,197,724	...	7,761	...	6,692	11,220,232
Punjab, ...	6,125,460	1,144,090	9,337,685	36,190	22,154	945,919	...	17,611,498
Central Provinces, . .	5,879,772	178	233,247	36,569	10,477	2,041,276	...	8,201,519
Berar, ...	1,912,155	406	154,951	...	903	163,150	3,911	2,227,654
Mysore, ...	4,807,425	...	208,991	13,263	25,676	57	...	5,055,412
Coorg, ...	154,476	...	11,304	112	2,410	10	...	168,312
British Burma, . .	36,658	...	99,846	2,447,831	52,299	110,514	...	2,747,148
Madras, ...	28,863,978	...	1,857,857	21,254	533,760	318,816[3]	76,948[3]	31,672,613
Bombay, ...	12,989,329	24,007	2,870,450	191,137	126,063	148,220	...	16,349,206
Total, . .	139,343,820	1,174,435	40,867,125	2,832,851	897,682	5,417,304	561,069	191,096,603

[1] 90,680 in Jalpáiguri, and 35,173.
[2] In the Hill Districts and Goalpára.
[3] Of these, all except 4328 'others' are inhabitants of the Jáipur *Zamíndárí*, who were omitted from the Census Report.
N.B.—This Table, No. VIII., is taken from the Parliamentary Statistical Abstract relating to British India, 1879.

APPENDIX IX.—LIST OF THE 139 TOWNS IN BRITISH INDIA, OF WHICH THE POPULATION ACCORDING TO THE LATEST CENSUS EXCEEDS 20,000.

Towns.	Presidencies and Provinces.	Population.	Towns.	Presidencies and Provinces.	Population.	Towns.	Presidencies and Provinces.	Population.
Calcutta	Bengal	794,645[1]	Moulmein	B. Burma	46,472	Umballa Cantonment	Punjab	26,659
Bombay	Bombay	644,405[1]	Chapra	Bengal	46,287	Ajmere	Ajmere	26,569
Madras	Madras	397,552[1]	Murshidábád	Do.	46,182	Karnúl	Madras	25,579
Lucknow	Oudh	284,779	Ságar (Saugor)	Cent. Provinces	45,655	Ellore	Do.	25,487
Benares	N. W. P.	175,188	Múltán	Punjab	45,602[2]	Siálkot (town)	Punjab	25,337[6]
Patná	Bengal	158,900	Kombakonam	Madras	44,444	Panipat	Do.	25,276
Delhi	Punjab	154,417[2]	Behar	Bengal	44,295	Dera Ismáil Khán	Do.	24,906
Agra	N. W. P.	149,008	Sahâranpur	N. W. P.	43,844	Nariad	Bombay	24,551
Allahábád	Do.	143,693	Haidarábád	Bombay	41,152	Rewári	Punjab	24,503
Bangalore	Mysore	142,513	Cuddalore	Madras	40,290	Sátára	Bombay	24,484
Amritsar	Punjab	133,925[2]	Ludhiána	Punjab	39,983	Serampur	Bengal	24,440
Cawnpore	N. W. P.	122,770	Arrah	Bengal	39,386	Umballa (town)	Punjab	24,037[6]
Poona	Bombay	118,886	Gházípur	N. W. P.	38,853	Vaiháti	Bengal	23,730
Ahmedábád	Do.	116,873	Muzaffarpur	Bengal	38,223	Chandausi	N. W. P.	23,686
Surat	Do.	107,149	Shikárpur	Bombay	38,107	Háthras	Do.	23,589
Bareilly (Bareli)	N. W. P.	102,982	Vellore	Madras	38,022	Amráoti	Berar[2]	23,410
Lahore	Punjab	98,924[2]	Hubli	Bombay	37,961	Jaunpur	N. W. P.	23,327
Rangoon	B. Burma	98,745[4]	Faizábád	Oudh	37,804	Adoni	Madras	22,723
Howrah	Bengal	97,784	Conjevaram	Madras	37,327	Peshâwar Cantonment	Punjab	22,709
Nágpur	Cent. Provinces	84,441	Broach	Bombay	36,932	Purí	Bengal	22,695
Meerut	N. W. P.	81,386	Ahmednagar	Do.	36,824	Násik	Bombay	22,436
Farrukhábád	Do.	79,204	Masulipatam	Madras	36,188	Hajipur	Bengal	22,306
Trichinopoli	Madras	76,530	Coimbatore	Do.	35,310	Annámalai	Madras	22,293
Sháhjahánpur	N. W. P.	72,136	Amrohah	N. W. P.	34,904	Rámpur Beauleah	Bengal	22,291
Bhágalpur	Bengal	69,678	Húglí and Chinsurah	Bengal	34,761	Berhampur	Madras	21,670
Dacca	Do.	69,212	Budaun	N. W. P.	33,322	Chandrakona	Bengal	21,311
Mírzápur	N. W. P.	67,274	Bardwán	Bengal	32,321	Máinpuri	N. W. P.	21,177
Gya	Bengal	66,843	Belgaum	Bombay	32,277[5]	Máyavaram	Madras	21,165
Moradábád	N. W. P.	62,417	Bhiwání	Punjab	32,254			
Monghyr	Bengal	59,698	Vizagapatam	Madras	32,191			
Muttra	N. W. P.	59,281	Midnapur	Bengal	31,491			
Peshâwar	Punjab	58,555[26]						

Alígarh	N.W.P.	58,539	Prome	B. Burma	31,157	Tinnevelli	Do.	21,044
Mysore	Mysore[3]	57,815	Cannanore	Madras	31,070	Sasseram	Bengal	21,023
Jubbulpore (Jabalpur)	Cent. Provinces	55,188	Pálghát	Do.	30,752	Jahanábád	Do.	21,022
Karáchi (Kurrachee)	Bombay	53,526[5]	Etáwah	N.W.P.	30,549	Dholka	Bombay	20,854
Sholapur	Do.	53,403	Nellore	Madras	29,922	Bassein	B. Burma	20,688
Tanjore	Madras	52,175	Pilibhit	N.W.P.	29,840	Chittagong	Bengal	20,604
Madura	Do.	51,987	Mangalore	Madras	29,712	Firozpur	Punjab	20,592[6]
Bellary	Do.	51,766	Burhánpur	Cent. Provinces	29,303	Tellicherri	Madras	20,504
Gorakhpur	N.W.P.	51,117	Santipur	Bengal	28,635	Brindában	N.W.P.	20,350
Cuttack	Bengal	50,878	Dinapur	Do.	27,914	Vizianágaram	Madras	20,169
Jullundur (Jalandhar)	Punjab	50,067	Ellichpur	Berar[3]	27,782	Dera Ghází Khán	Punjab	20,123
Salem	Madras	50,012	Bánda	N.W.P.	27,746			
Kamthi	Cent. Provinces	48,831	Culna	Bengal	27,336	Population of 44 towns above 50,000		5,586,266
Negapatam	Madras	48,525	Dhárwár	Bombay	27,136[5]	,, 95 towns between 20,000 and 50,000		2,897,800
Calicut	Do.	47,962	Berhampur	Bengal	27,110			
Darbhanga	Bengal	47,450	Karnál	Punjab	27,022	Total population of 139 largest towns		8,484,066
Sanbhall	N.W.P.	46,974	Khurja	N.W.P.	26,858			
			Agarpára	Bengal	26,801			
			Kishnagarh	Bengal	26,750			
			Batala	Punjab	26,680			

[1] In this statement the cities of Calcutta, Madras, and Bombay are each reckoned with their suburbs as one town. By the Census of 1876, the population of Calcutta within municipal limits was 429,535 (instead of 447,601); adding the population of the suburbs in 1872, 347,044, the total population would be only 776,579.

[2] By a Census of the Punjab Municipalities in 1876, the following returns were given:—Delhi and suburbs, 160,553; Amritsar and suburbs, 142,381; Lahore and suburbs, 128,441; Pesháwar, 58,430; Múltán and suburbs, 50,878.

[3] Temporarily under British administration.

[4] An estimate in June 1876 gave 108,000 as the population of Rangoon.

[5] Including civil population in Cantonments.

[6] Besides cantonment population:—Pesháwar, 22,709 (see above); Siálkot, 10,546; Umballa, 26,659 (see above); Firozpur, 15,837.

N.B.—This table, No. IX., is taken from the Parliamentary Statistical Abstract relating to British India, 1879.

APPENDIX X.—RATES of CUSTOMS IMPORT DUTY in BRITISH INDIA, and GROSS AMOUNT received in 1878.

ARTICLES.	Rate of Duty after Notification of March 18, 1878.	Duty received Year ending March 31, 1879.
Apparel,	5 per cent.	£25,268
Arms, Ammunition, etc.,	...[1]	5,617
Asphalt, Cement, Earthenware Piping, etc.,	Free.	18
Cabinetware and Furniture,	Do.	16
Candles,	Do.	3 Rupees.
Canes and Rattans,	Do.	20
Caoutchouc, Raw and Manufactured,	5 per cent.	502
Carriages, etc.,	Free.	1
Chemical Products, Brimstone, and other sorts,	Do.	161
Chinese and Japanese Ware,	5 per cent.	968
Clocks and Watches,	Do.	2,398
Coffee,	Free.	5
Coir, Raw and Manufactured,	Do.	...
Coral, Real,	5 per cent.	4,040
Cordage and Rope of Vegetable Fibre (excluding Cotton and Jute),	Free.	54
Corks,	5 per cent.	1,003
Cotton, Raw (not Asiatic),	Free.	...
,, Twist and Yarn,	$3\frac{1}{2}$ per cent.[2]	90,205
,, Piece-Goods,	5 per cent.[3]	672,157
,, Other Manufactures,	Do.	8,918
Drugs and Medicines (except Opium),	Do.	13,276
Dyes (except Lac),	Do.	4,712
Earthenware and Porcelain,	Do.	6,064
Fireworks,	Do.	2,137
Flax, Raw,	Free.	...
,, Twist and Yarn,	Do.	...
,, Piece-Goods,	Do.	4
,, Other Manufactures,	Do.	152
Fruits and Vegetables,	Do.	6
Glass, Bottles,	Do.	...
,, Other sorts,	5 per cent.	16,163
Gums and Resins,	Do.	3,930
Hardware and Cutlery,	Do.	21,161
Hemp, Manufactured,[4]	Free.	4
Carry forward,	...	£878,960

[1] By Act XI. of 1878, the maximum duty levied on arms, etc., imported for private use, is 10 per cent. The rates leviable on such articles imported for other purposes are fixed by a schedule (Rs. 50 for each firearm, Rs. 15 for a pistol, etc.).

[2] Grey Mule Twist No. 32, and lower numbers, and Grey Water Twist No. 20, and lower numbers, free from 20th March 1878.

[3] T cloths under 18 reed, jeans, domestics, sheetings, and drills, free if containing no yarn higher than thirties. Grey cotton piece-goods, howsoever designated, containing no yarn higher than thirties, free from 15th March 1879.

[4] Raw hemp is free.

RATES of CUSTOMS IMPORT DUTY in BRITISH INDIA, and GROSS AMOUNT received in 1878—*continued.*

ARTICLES.	Rate of Duty after Notification of March 18, 1878.	Duty received Year ending March 31, 1879.
Brought forward, ...	...	£878,960
Hides and Skins, Raw, ...	Free.	...
,, ,, Dressed, . .	Do.	3 Rupees.
Instruments and Apparatus, Musical, .	5 per cent.	1,543
,, ,, Other, .	Free.	44
Ivory, Unmanufactured, ...	5 per cent.	6,011
,, Manufactured, ...	Do.	160
Jewelry and Plate,[1]	Do.	1,725
Lac, ...	Free.	...
Leather, Unwrought and Manufactured,	Do.	5
Liquors, Malt, ...	1 Anna per Gal.	6,790
,, Spirits, ...	4 Rupees per Gal.[2]	286,847
,, Wines and Liqueurs, . .	Varying from 1 to 4 Rupees per Gal.	68,104
,, Other sorts, ...	1 Anna per Gal.[3]	209
Matches, ...	5 per cent.	4,225
Mats, ...	Free.	2 Rupees.
Metals, Brass, ...	5 per cent.	2,031
,, Copper, ...	Do.	70,300
,, Iron, Anchors and Cables, .	1 per cent.	326
,, ,, Cast and Wrought, .	Do.	17,072
,, ,, Other sorts, . . .	5 per cent.[4]	
,, Lead, Sheets for Tea Chests, .	Do.	3,024
,, ,, Other sorts, . . .	Do.	2,203
,, Quicksilver, ...	Do.	3,158
,, Spelter or Zinc, . . .	Do.	7,841
,, Steel, ...	Do.	3,530
,, Tin, ...	Do.	8,669
,, Unenumerated,[5]	Do.	1,301
Military Uniforms and Accoutrements,[6]	Free.	18
Oil and Floor Cloth, ...	Do.	4 Rupees.
Oils,[7]	Do.	407
Opium, ...	24 Rupees per Seer.	4
Paints and Painters' Materials, . .	5 per cent.	10,467
Paper: Wall Paper, ...	Free.	...
,, Other kinds, Pasteboard, etc., .	5 per cent.	112
Perfumery,[8]	Do.[9]	2,619
Pitch, Tar, and Dammer, . . .	Free.	3
Carry forward, ...	...	£1,387,709

[1] Precious stones and pearls unset are free.
[2] If for use in arts, manufactures, or chemistry, 10 per cent.
[3] Ginger ale free, 16th July 1879.
[4] Iron-ore and kentledge, free.
[5] Current coin and bullion are free.
[6] Free, if imported for private use by persons in the public service.
[7] Cocum and slush fat are free.
[8] Musk is free.
[9] Perfumed spirits taxed as spirits, if in wood or bottles containing more than half a pint.

RATES of CUSTOMS IMPORT DUTY in BRITISH INDIA, and GROSS AMOUNT received in 1878—*continued.*

ARTICLES.	Rate of Duty after Notification of March 18, 1878.	Duty received Year ending March 31, 1879
Brought forward, . . .	...	£1,387,709
Provisions, ...	5 per cent.[1]	27,447[2]
Railway Plant and Rolling Stock, .	Free.	941
Salt, from Foreign Ports, . . .	Rs. $2\frac{1}{2}$ per Maund.[3]	2,198,553
,, Indian, ...		114,108
Seeds, ...	Free.	327
Shells and Cowries, ...	5 per cent.	1,697
Silk, Raw, ...	Do.	25,989
,, Piece-Goods, ...	Do.	34,523
,, Other Manufactures, . . .	Do.	2,937
Soap, ...	Free.	3
Spices, ...	5 per cent.	20,613
Stationery, ...	Do.	3,948[4]
Sugar, etc., ...	Do.	62,803
Tea, ...	Do.	7,906
Telegraph Materials, Iron, . . .	1 per cent.	16
,, ,, Other, . . .	5 per cent.	
Tobacco, ...	5 per cent.	4,075
Toys, etc., ...	Do.	3,008
Umbrellas, ...	Do.	11,898
Woollen Goods, Piece-Goods, . .	Do.	33,366
,, Shawls, . . .	Do.	4,932
,, Other Manufactures, .	Do.	3,867
Articles imported by Post, . . .	Various rates.	4,328
Other Dutiable Articles, . . .	5 per cent.	4,333
TOTAL, ...	...	£3,959,326

[1] The duty on salted fish imported from foreign ports or from British Burma is 12 *ánnás* per cwt.

[2] Including dried fruits, etc.

[3] Reduced to this rate by notification of 31st July 1878, for all parts except in Bengal, where the duty is Rs. 3, 2 *ánnás* per *maund*, and in British Burma, where it is 3 *ánnás* per *maund*. Salt was exempted from duty, if imported at Calcutta, and issued to manufacturers of glazed stoneware, 14th July 1877. In the Finance accounts the receipts from salt are not included with Customs.

[4] Excluding paper, pasteboard, and millboard.

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